Oregon Coast Community College

Student Handbook

Fall 2025

The Oregon Coast Community College Aquarium Science Program publishes this student handbook to provide aquarium science degree and certificate students with current information about the program. Changes sometimes occur after the handbook has been printed, which may affect programs, policies, and procedures. The Aquarium Science Program (AQS) will attempt to post important changes and new information on the AQS Program website. Students should periodically consult with the Director of the Aquarium Science Program for updated information not available at the time of publication. This handbook shall not be construed as a contract between the student and the College.

Academic Year 2025-26

Dear Aquarium Science Student,

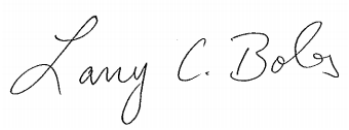
Welcome to the start of your academic pursuit of a degree or certificate in Aquarium Science. We are excited to have you as a student who is part of this unique and challenging program. The reward of earning a degree and eventually employment in the aquatic animal care profession is the ultimate goal of this program. The path of this exciting career begins now and will come to fruition through your hard work and diligent study within the program's courses and practical opportunities.

This Student Handbook is developed to help you understand the policies, procedures and expectations of the program. It is important that you read the handbook thoroughly. Once you have read it, please indicate your understanding of the contents by signing the Handbook Statement that will be distributed at orientation along with other related forms required by the Aquarium Science Program.

Many of the Aquarium Science Program expectations, policies and procedures described in the Handbook have been derived from best practices and standards within the aquatic animal care industry. We have committed to extending the opportunity of the first steps in your path to a career in Aquarium Science, therefore we accept you as an aquarium science professional as soon as you enter the program. In turn, we expect that you approach your studies and activities assigned within the program as professionals with personal integrity, always conducting yourselves respectfully and ethically. Aquarists at all levels need to be caring, not only of the animals they are assigned, but also be able to relate well to people of different backgrounds and cultures. As an aquarist, you need to be able to adapt to change, think critically, solve problems and respond positively during crises. Abiding by the policies and procedures in this Handbook will enhance your success in the Aquarium Science Program and prepare you well for your career.

The Aquarium Science faculty, staff and I look forward to working with you during your time of study within the program. We want to congratulate you on this first step in your aquatic animal care career, and we wish you success and enjoyment in your courses.

Sincerely,



Larry Boles, Director of Aquarium Science Program
On behalf of the Faculty and Staff of the OCCC Aquarium Science Program

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Program Overview

1.1 Program Mission and Goals

The Aquarium Science Program (AQS) at the Oregon Coast Community College (OCCC) integrates classroom, laboratory, hands-on and real work experiences to develop your aquatic animal husbandry skills. The college offers two study options: The Associates of Applied Science degree is a two-year study program (90 credits) and the one-year Certificate of Completion (53 credits) for individuals who have already earned a Bachelor's degree or higher in a life science. Students who successfully complete this series of courses will be qualified to work in the aquatic animal husbandry profession.

1.2 Program Learning Outcomes

Students who successfully complete the AQS Program curriculum will be able to:

1. Effectively communicate, verbally and in writing, scientific concepts, research findings and ideas to professionals and the general public.
2. Maintain, analyze, diagnose and repair life support systems and their components.
3. Perform basic water quality analysis using standard testing equipment.
4. Maintain healthy animals through proper set-up, monitoring and accepted animal husbandry practices.
5. Identify physically compromised animals and abnormal animal behaviors.
6. Work within a group to conceptualize, plan, construct and manage environments that promote healthy fishes and invertebrates.
7. *Apply fundamental knowledge and skills in science, mathematics and communications for success in a professional or academic setting.

**For two year AAS degree.*

1.3 Program Histories and Background

The origin of the Aquarium Science Program is based on the need for skilled workers and the expansion of the aquatic animal husbandry facilities. The curriculum was developed with the industry's input and reflects the broad base of skills and knowledge required to be successful in the profession. In 2001, the college conducted a nationwide survey of the aquatic animal husbandry industry (public aquariums, aquaculture facilities, and ornamental fish businesses) and found that: 1) Over half of the supervisors reported having experienced difficulties in hiring skilled personnel; that specific job related skills and knowledge were most frequently absent in newly hired staff, 2) General education skills of science, math, writing and oral communication were also lacking, and 3) For the foreseeable future, new facilities are scheduled to open, while established aquariums are expanding or increasing their program offerings. Because of

these factors, the need for skilled personnel remains high. Over 80% of the responding institutions indicated that graduates of this program would be qualified to work at their facility. In 2002, the college was awarded a grant from the National Science Foundation to develop the AQS Program. The Oregon Department of Education then approved the specialized curriculum, and the first Aquarium Science Student cohort began studies in the fall of 2003. Since that time, students successfully completing and graduating from the program have been able to gain employment in professionally related career positions within the aquatic animal care industry at a rate of over 90%.

1.4 College and Program Faculty and Staff

President		
Dr. Marshall Mease Roache	541-867-8509	occc.president@oregoncoast.edu
VP of Student Affairs		
Dr. Bruce Clemetsen	541-867-8511	bruce.clemetsen@oregoncoast.edu
Aquarium Science Student Academic Advisor		
Erica Todd	541-867-8503	erica.todd@oregoncoast.edu
Facilities, Maintenance and Safety Director		
Chris Rogers	541-867-8549	chris.rogers@oregoncoastc.org
College Tutor Coordinator		
Staff	541-867-8502	tutoring.center@oregoncoast.edu
Aquarium Science Program Director		
Larry Boles	541-867-8509 919-794-3442	larry.boles@oregoncoast.edu
Aquarium Science Instructors		
Kevin Clifford	541-867-8540	kevin.clifford@oregoncoast.edu
Trevor Erdmann	541-867-8540	trevor.erdmann@oregoncoast.edu
Carla Schubiger	541-867- 8540	carla.schubiger@oregoncoast.edu
Aquarium Science Facility Personnell		
Claire Smith	530-917-0142	Claire.Smith@oregoncoast.edu
Grace Otis	541-602-3819	grace.otis@oregoncoast.edu
Savannah Dodds	505-610-8826	savannah.dodds@oregoncoast.edu

1.5 Industry Partners and Support

The AQS Program draws much of its success from its unique location in Newport, OR and the associated relationships developed with local, regional and nationwide partners in the aquarium science industry. The aquarium science industry is defined by the program as those organizations and/or facilities conducting practices for business and operation in the fields of public exhibition of live zoological collections for education, conservation and entertainment (public aquariums, zoos, museums and nature centers), private and academic research institutions (college and universities), ornamental fish trade businesses and associated suppliers and manufacturers, aquaculture facilities and hatcheries. Industry representatives have partnered and supported the AQS program through various levels of commitment such as; course and curriculum development/review, special instruction and guest lecturers, internship hosting, job placement and preparation, in-kind donation and monetary support. Below are listed just a few of the industry partners who have consistently supported the program in the past and through current operations.

1.5.1 Local/Regional Participants

Oregon Coast Aquarium
2820 SE Ferry Slip Rd.
Newport, OR 97365

Hatfield Marine Science Center
2030 SE Marine Science Dr.
Newport, OR 97365

Oregon Hatchery Research Center
2418 East Fall Creek Road
Alsea, OR 97324

Oregon Department of Fish and Wildlife
Newport Branch Office
2040 SE Marine Science Dr.
Newport, OR 97365

Oregon Sea Grant
29 SE 2nd St.
Newport, OR 97365

Molluscan Broodstock Program
2030 SE Marine Science Dr.
Newport, OR 97365

1.5.2 National Participants (non-exhaustive)

Akron Zoo – Akron, OH
Alaska Sea Life Center – Seaward, AK
AquaLogic – San Diego, CA
Aquarium of the Bay – San Francisco, CA
Aquarium of the Pacific – Long Beach, CA
Aquatic Animal Life Support Operators – Lake Buena Vista, FL
Amaha's Henry Doorly Zoo and Aquarium – Omaha, NE
Asahi America – Malden, MA
Audubon Nature Institute – New Orleans, LA
Blackwater Creek Koi Farm – Eustis, FL
Birch Aquarium - San Diego, CA
CalAquaria – Ontario, CA
David L. Manwarren Corp. – Rancho Cucamonga, CA
Dynasty Marine Associates – Marathon, FL
Ecoxotic – Vista, CA
Emperor Aquatics – Pottstown, PA
Envision Acrylic – Beaverton, FL
Escherick, Homsey, Dodge and Davis – San Francisco, CA
Florida Aquarium – Tampa, FL
Fritz Aquatics – Mesquite, TX
Georgia Aquarium – Atlanta, GA
Hach Company – Loveland, CO
Hayward Industrial Products – Pomona, CA
Landry's Downtown Aquarium Denver – Denver, CO
Living Coast Discovery Center – Chula Vista, CA
Marine Biological Laboratory – Woods Hole, MA
McRobets Sales Co., Inc. – Ruskin, FL
Monterey Bay Aquarium, Monterey, CA
Moody Gardens – Galveston, TX
Mote Marine Laboratory – Sarasota, FL
MWH Global – Irvine, CA
Mystic Aquarium – Mystic, CT

National Aquarium in Baltimore – Baltimore, MD
New England Aquarium - Boston, MA
New Era – Thorne, UK
Newport Aquarium – Newport, KY
Oregon Zoo – Portland, OR
Piscine Energetics – British Columbia, Canada
Point Defiance Zoo & Aquarium – Tacoma, WA
Quality Marine – Los Angeles, CA
Riverbanks Zoo and Aquarium – Columbia, SC
Ripley's Aquariums – Myrtle Beach, SC, Orlando, FL and Gatlinburg, TN
RK2 – Escondido, CA
Sea Dwelling Creatures – Los Angeles, CA
SEA LIFE Aquariums – US Locations (CA, AZ, TX, MO, MN, NC)
Seattle Aquarium – Seattle, WA
Shark Reef at Mandalay Bay – Las Vegas, NV
Shedd Aquarium – Chicago, IL
South Carolina Aquarium, Charleston, SC
Steinhart Aquarium – San Francisco, CA
Texas State Aquarium – Corpus Christi, TX
Titan Aquatic Exhibits – Phoenix, AZ
Turtle Bay Exploration – Redding, CA
Virginia Aquarium and Marine Science Center – Virginia Beach, VA
Walt Disney World, Living Seas, Epcot Center – Orlando, FL
Waterdog Products Inc. – El Cajon, CA
Zebrafish International Resource Center – Eugene, OR

1.6 Local Advisory Committee

The local advisory committee functions as long term, ongoing support to the successful development of the program and is made up of local/regional aquatic animal care industry leaders in research, small business, aquaculture and public aquaria. The committee meets twice annually to review the program's current status, content and relevance as well as lend support and ideas to its future development.

Recent committee members included:

- Tim Miller-Morgan – Veterinarian, Hatfield Marine Science Center
- Blaine Schoolfield – Molluscan Broodstock Program Manager, HMSC
- Sage Butts – Aquarist, SeaWorld UAE
- Sid Stetson – Aquarist, Hatfield Marine Science Center
- Dan Lara – VP of Academics, Oregon Coast Community College
- Trevor Erdmann – Aquarist, Hatfield Marine Science Center
- Jen Krajcik – Hatchery Manager, Oregon Hatchery Research Center

- Cinamon Moffett – Research Program Manager, Hatfield Marine Science Center

1.7 National Visiting Committee

The National Visiting Committee (NVC) is a committee comprised of Aquarium Science Industry professionals that annually evaluate the program. The event and schedule of activities for the NVC occurs over the course of three days. During this time the NVC members review the Aquarium Science Program's overall structure including courses, curriculum, program content, recruitment, administration, development, facilities and its current students. Several meetings, observations, evaluations and interviews take place over the three days and on the final day the NVC is asked to compile all of their findings into a verbal preliminary report. A final written comprehensive report is then developed by the NVC from its preliminary findings and sent on to the Aquarium Science Program Director usually within one to two weeks from the final day of the visit.

The NVC is generally comprised of up to 10 members invited from within the Aquarium Science industry and profession visiting from various locations across the United States. The Aquarium Science industry is defined herein as any organization contributing to the development and/or on-going care of aquatic animals (mainly fish and invertebrate species) in a professional setting (i.e. public aquariums, science and nature centers with live aquarium exhibits/enclosures, aquaculture facilities, associated manufacturing, wholesale and/or retail facilities, associated academic/research institutions, etc.). Individual NVC members participating are generally in leadership positions within their represented organizations with managerial and supervisory responsibilities.

Participants invited to the NVC vary from year to year, usually with a number of returning participants and several new members. One returning member will be asked to act as the Committee Chair for the duration of the event and throughout the year for any follow up reports or announcements until the subsequent year's committee is established. The Chair will select other committee members to assist with developing and drafting certain elements of the final report and will be responsible for communicating the final report to the college.

The following individuals participated as NVC members in 2025:

> Steve Bailey – Frost Museum of Science; Richard Prince - Wonders of Wildlife; Barrett Christie – South Carolina Aquarium; Andrew Shelquist – Minnesota Zoo; Sage Butts – SeaWorld Yas Island, Abu Dhabi ; Carissa Delgadillo-Mendoza, Steinhart Aquarium, California-Academy of Sciences; Karen Tuttle – Monterey Bay Aquarium; Micah Buster – Marine Mammal Center ; Christy MacDonald – Aquarium at the Boardwalk; Katie St. Clair – Texas A&M -Galveston Sea Life facility; Austin Calpin – Kansas City Zoo and Aquarium

1.7.1 Student Expectations and Requirements for the NVC

The NVC will be participating in orientation, student interviews, program and course evaluations, program application process evaluations, facility evaluations and business meetings. These main business activities will be accomplished in the framework of a normal workday with social activities for professional networking and interaction amongst the students, staff and colleagues occurring in the evenings. Students are invited and **encouraged** to attend three professional networking events at various locations off campus during the evenings. These activities are intended to allow the students to interact with committee members and other invited guests in an informal setting.

Students are required to participate in mock professional interviews with the committee. The mock professional job interviews will take place on the first day of the visit. Interviews will be one-on-one in nature and will last 30-45 minutes each. Twenty minutes should be allowed for interview questions with a ten-minute initial feedback session at the end of the question-and-answer period. Students are expected to attend the interview sessions they are assigned to as if they were interviewing for a real position. The interviewer will provide feedback on appearance, general demeanor, and quality of answers. Resumes from each student will also be provided to the interviewer (preferably beforehand) with an expectation for comment and feedback from the interviewer to the student. Evaluation forms will be provided by the college to each interviewer and will be filled out and given to the Director of the program at the end of the interview sessions. The AQS Director will schedule individual meetings with each student to discuss the feedback and comments received on the interview evaluation forms in the weeks immediately following the committee's visit.

Students will be given additional opportunities to provide feedback on the program to the NVC during a question-and-answer session after the interview sessions are complete. This will be an opportunity for the students to formally interact with the committee and ask questions about the profession and the committee members' experiences in the industry. College staff and faculty will be invited to attend this session. Students will also have an opportunity to address the committee as a class without the presence of college staff and faculty. This "closed" session allows students the chance to express their views and experience with the Aquarium Science Program in a "risk free" environment. This session is not intended to be a personal "gripe" session and requires that student comments are constructive and professional. The NVC members will collect the student feedback during the session and provide these as anonymous comments back to the AQS Director.

2. Aquarium Science Courses

OCCC offers a 2-year Associate of Applied Science degree in Aquarium Science and a 1-year Certificate of Completion. The 2-year degree is for individuals who have a high school diploma or GED but do not have a BS degree or higher in a Life Science. The 1-year certificate is available for individuals who have earned a BS or higher in Life Science.

Scheduling requirements and limited resources prevent all courses from being offered every term or every year. Course numbers, titles, course and program applicability, prerequisites, instructional format, delivery methods, and content may change without notice. Students are advised to consult with an advising specialist each term to select courses, create and maintain personal educational plans, and obtain the most current information. The Curriculum Map for the degree and certificate offered in Aquarium Science can be found on the program web site.

2.1 Aquarium Science (AQS) Course Descriptions

AQS 100 – Introduction to Aquarium Science (3 credits)
Weekly contact hours: 2 lecture; 2 lecture/lab
Prerequisites: None
Program Requirement: Yes
Term offered: Fall

Examines the history of animal keeping and present-day aquatic animal husbandry industries. Explores the physical, chemical and biological processes occurring in the aquarium environment. Covers the proper set-up and maintenance of home aquaria. Upon completion of the course, a student will be able to 1) Assess the physical, chemical, and biological processes occurring in the aquatic environment 2) Create and maintain suitable aquatic habitats 3) Properly use associated tools and equipment 4) Identify employment venues and information resources 5) Recognize major groupings of fishes and invertebrate species found in the aquarium industry and use appropriate criteria for their selection to aquarium systems.

AQS 110 – Aquarium Science Practicum I (2 credits)
Weekly contact hours: 6 lab
Prerequisites: AQS 100
Program Requirement: Yes
Term offered: Winter

Introduces aquatic animal husbandry work environment and the care of captive aquatic animals. Emphasizes daily animal care and exhibit readiness. Upon completion of the course, a student will be able to 1) Prepare food for the animal collection and clean animal collection areas to industry standards 2) Assist with opening and closing procedures at the aquatic facility 3) Culture, harvest, and distribute live food organisms to the animal collection 4) Interpret exhibits and aquatic animal work areas to facility

patrons in a positive and informative manner 5) Identify fishes and invertebrate behaviors 6) Design and implement a fish transport strategy.

AQS 111 – Aquarium Science Practicum II (2 credits)
Weekly contact hours: 6 lab
Prerequisites: AQS 110
Program Requirement: Yes
Term offered: Spring

Builds upon the experiences gained in AQS 110 (Aquarium Science Practicum 1). Involves participation in a higher level of aquatic animal husbandry activities including animal health procedures, long-term record keeping and life support systems training. Upon completion of the course, a student will be able to 1) Apply aquatic animal husbandry skills with captive aquatic animals 2) Assess operational issues in order to improve animal care 3) Diagram the flow of water from its source to its discharge location 4) Organize and communicate system and animal observations in a clear, concise manner.

AQS 165 – Current Issues in Aquarium Science (1 credit)
Weekly contact hours: 1 lecture
Prerequisites: None
Program Requirement: Yes
Term offered: Spring

Examines the current internal and external factors that impact the operational role and function of zoological facilities with aquatic animal collections. Upon completion of the course, a student will be able to 1) Discuss the benefits that a zoological facility presents to the local community and to society 2) Understand and discuss the role of revenue streams and expenditures within a zoological institution 3) Identify how global or regional conditions outside of a zoological organization impact its operations 4) Understand the role of the Association of Zoos and Aquariums (AZA) and similar organizations in promoting the viability of zoological facilities.

AQS 173: Water Chemistry in Aquatic Systems (4 credits)
Weekly contact hours: 3 lecture; 2 lecture/lab
Prerequisites: AQS 100, BI 101, MTH65
Program Requirement: Yes
Term offered: Winter

This course covers water chemistry dynamics in aquatic systems and covers topics including lab safety, occupational safety, the Nitrogen cycle salinity, dissolved oxygen, acid/base chemistry, pH and pH buffering, ozone chemistry, coliform bacteria testing, working knowledge of spectrophotometers and other lab techniques, proper handling and disposal of water quality (WQ) reagents, management of conservative and

nonconservative salts, dilutions, molarity, stoichiometry, and basic calcifying invertebrate chemistry and husbandry.
Upon completion of the course students should be able to: 1) Express orally or in writing, the basic elements of water chemistry in aquatic systems and the ideal ranges for WQ parameters in different types of aquatic systems. 2) Have working knowledge of how WQ parameters outside recommended ranges affect the health of the system and the animals living in it and be able to express it orally, graphically, and in writing. 3) Interpret water chemistry parameters and be able to develop a plan to safely manipulate and proactively manage these values in order to maintain system and animal health. 4) Understand how WQ impacts natural aquatic ecosystems.

AQS 215 – Biology of Captive Fish (4 credits)
Weekly contact hours: 3 lecture; 2 lecture/lab
Prerequisites: BI 103 or Instructor consent
Program Requirement: Yes
Term offered: Fall

Examines the diversity, anatomy, physiology, sensory biology, and behavior of freshwater and marine fishes and the constraints placed upon them in a controlled environment. Upon completion of the course, a student will be able to 1) Identify basic external and internal anatomical features of fishes 2) Identify fish species using a dichotomous key 3) Recognize the immense diversity and variation among living fishes 4) Describe the effects of key factors in the captive controlled environment on respiration, metabolism, immune response, food assimilation, growth, reproduction, and behavior 5) Understand the influence of stress on fish physiology, health, and behavior 6) Describe osmoregulatory processes of marine and freshwater fishes 7) Develop and conduct a study of captive fish behavior.

AQS 216 – Elasmobranch Husbandry (2 credits)
Weekly contact hours: 2 lecture
Prerequisites: AQS 100 or Instructor consent
Program Requirement: Yes
Term offered: Spring

Explores the history of captive shark and ray management, current regulations, legislation, and conservation of elasmobranchs. Emphasizes requirements associated with keeping a healthy population of elasmobranchs. Upon completion of the course, a student will be able to 1) Identify commonly kept species of elasmobranchs (sharks, skates and rays) 2) Identify proper nutrition, commonly encountered health conditions, and common behavior associated with elasmobranchs in captive environments 3) Discuss factors necessary for the safe handling, immobilization and transport of elasmobranchs 4) Discuss factors influencing the long-term success in keeping elasmobranchs in controlled captive environments.

AQS 220 – Biology of Captive Invertebrates (4 credits)
Weekly contact hours: 3 lecture; 2 lecture/lab
Prerequisites: Standard pre-requisites WR 115, RD 115 and MTH 65 or equivalent placement test scores, AQS 100, BIO 101, BIO 102, or Instructor consent.
Program Requirement: Yes
Term offered: Spring

Presents the life history and captive care requirements of aquatic invertebrates commonly cultured and kept in the aquatic animal industry. Upon completion of the course, a student will be able to 1) Recognize and identify internal and external features of commonly kept and cultured aquatic invertebrates 2) Discuss the important physiologic characteristics of aquatic invertebrates including reproduction, locomotion, and osmoregulation 3) Describe the natural life history of commonly kept and cultured aquatic invertebrates 4) Identify the husbandry requirements for selected aquatic invertebrates 5) Design a culture system suitable for selected aquatic invertebrates.

AQS 226 – Biology of Diverse Captive Species (2 credits)
Weekly contact hours: 1 lecture, 2 lecture/lab
Prerequisites: Enrollment in the AQS program or Instructor Consent
Program Requirement: Yes
Term offered: Winter

Examines the basic husbandry and system requirements of a broad range of phyla found in public aquariums, research, and other zoological collections. Highlights specialized needs of selected invertebrate and fish species and introduces students to challenges and considerations for reptile, amphibian, avian, and marine mammal husbandry. Upon completion of the course, a student will be able to 1) Understand the basic husbandry requirements of diverse captive species with specialized needs 2) Discuss the broad taxonomic groups represented in public aquarium collections 3) Identify high risk stages in the life history of selected species 4) Determine and describe a suitable habitat for selected species 5) Prescribe appropriate husbandry protocol for selected species 6) Relate legislative and husbandry issues to the care of diverse captive species.

AQS 232 – Reproduction and Nutrition of Aquatic Animals (4 credits)
Weekly contact hours: 3 lecture; 2 lab
Prerequisites: AQS 100, AQS 215, AQS 220 or consent of instructor.
Program Requirement: Yes
Term offered: Winter

Presents the reproductive strategies of fishes and invertebrates in a controlled environment and the manipulation of environmental and physiological parameters that initiate reproduction. Provides the fundamentals of nutrition as well as the nutritional requirements of selected aquatic animals throughout their life history. Presents industry standards for food handling and HACCP requirements. Upon completion of the course, a

student will be able to 1) Identify common reproductive strategies of selected fishes and invertebrates 2) Construct an environmental protocol to induce gamete maturation in commonly cultured fishes and invertebrates 3) Apply rearing techniques for the care of offspring of commonly cultured fishes and invertebrates 4) Formulate a suitable dietary and feeding program for aquatic animals.

AQS 240 – Life Support System Design and Operation(4 credits)
Weekly contact hours: 3 Lecture; 3 Lecture/Lab
Prerequisites: AQS 100 & AQS 215 corequisite
Program Requirement: Yes
Term offered: Fall

Examines the role of life support systems in maintaining a balanced, stable aquatic environment. Covers how to design, construct, maintain, and troubleshoot semi-closed, closed and open systems. Upon completion of the course, a student will be able to 1) Identify water quality parameters impacted by life support systems and relate the use of associated equipment to evaluate aquatic environments 2) Identify the functions and the relationships of life support system components in maintaining a balanced aquatic system 3) Size and select appropriate life support system components and equipment for an aquatic system 4) Troubleshoot and remedy faulty life support system components 5) Diagram the flow of water from its source to its discharge location 6) Design and build an aquatic life support system.

AQS 245 – Animal Husbandry in a Research Capacity
Weekly contact hours: 2 lecture
Prerequisites: Enrollment in the AQS program or Instructor Consent
Program Requirement: Yes
Term offered: Fall

Examines the use of fish in research as well as the regulatory and ethical issues associated with this practice. Common procedures, protocols and research methodology such as husbandry, anesthesia, biopsy, blood draws, minor surgeries, field study, behavioral techniques, and euthanasia will be presented. Upon completion of the course, a student will be able to 1) Explain the role of Institutional Animal Care and Use Committee or similar entity that is responsible for monitoring the quality of animal care at a research facility 2) Distinguish between animal rights and animal welfare perspectives 3) Develop a Standard Operating Procedure for the transport, acclimation, quarantine, feeding and husbandry of a healthy population of fish for research purposes 4) Discuss the responsibilities of the aquarist or animal husbandry technician as it relates to fish husbandry and welfare 5) Implement measures to reduce workplace hazards.

AQS 252 – Exhibits and Interpretations (3 credits)
Weekly contact hours: 2 lecture; 2 lecture/lab

Prerequisites: AQS 100, 215, 220, 240 or Instructor consent
Program Requirement: Yes
Term offered: Winter

Introduces the principles of exhibit development and interpretive presentations. Covers projects in exhibit planning, performing interpretive presentations, and writing interpretive pieces. Emphasizes the process of developing exhibits and interpretation from conceptual statement through fabrication, performance, or publication. Upon completion of the course, a student will be able to 1) Serve as a contributing member of an exhibit planning team, supporting the process of creating an exhibit and the roles of others on the team 2) Apply the principles of interpretation to the programs that husbandry staff are frequently asked to perform 3) Identify criteria, considerations and components for the design and implementation of aquarium tanks, lighting, interior tank habitats, and live animal collections 4) Write effective interpretive material for exhibits, newsletters, and brochures 5) Describe what makes an effective exhibit, and evaluate exhibits and interpretation using industry standard criteria 6) Apply industry related information resources to the design and development of aquarium exhibits and interpretation.

AQS 270 - Fish and Invertebrate Health Management (4 credits)
Weekly contact hours: 3 lecture; 2 lecture/lab
Prerequisites: AQS 100, 215, 220, 240 or Instructor consent
Program Requirement: Yes
Term offered: Winter

Examines the common techniques and rationale for fish and invertebrate health management. Reviews the common infectious and noninfectious diseases and disease management strategies for captive fish and invertebrates. Upon completion of the course, a student will be able to 1) Identify the common signs of disease in fish and invertebrates 2) Describe the common infectious and noninfectious diseases associated with captive aquarium fish 3) Demonstrate proper use and maintenance of laboratory instrumentation 4) Demonstrate proper necropsy and sample collection techniques 5) Formulate a health management and biosecurity plan based upon the results of diagnostic testing, water quality measurements and professional consultation 6) Perform common treatment methodologies.

AQS 295 – Aquarium Science Internship (12 credits)
Weekly contact hours: 40 lab
Prerequisites: All AQS core curriculum required courses or consent of AQS Director
Program Requirement: Yes
Term offered: Spring (Degree), Summer (Degree & Certificate)

Provides the experience of daily diligence, responsibilities and rewards of the aquatic animal husbandry profession at an aquatic animal facility. Presents daily animal care and

facility readiness routines, assisting life support staff and animal health management professionals, and evaluation of operational aspects of the facility. Upon completion of the course, a student will be able to 1) Apply aquatic animal husbandry skills with aquatic systems and captive aquatic animals 2) Evaluate and participate in the delivery of aquatic animal nutrition, sanitation and biosecurity programs at an aquatic animal care facility 3) Enter data and extract information within record keeping and databases used by the industry 4) Discuss historic and current animal health management of captive aquatic animals within an aquatic animal care facility 5) Evaluate and participate in the delivery of water quality management program within an aquatic animal care facility 6) Identify components, configuration and operational requirements of life support systems within an aquatic animal care facility 7) Identify and discuss aquarium exhibits in regard to their design, thematic delivery and operational requirements at an aquatic animal care facility.

3. College Campus Resources

OCCC makes available an array of services to assist students. Descriptions of these services are available in the College Catalog and on the OCCC website (www.oregoncoast.edu) under Student Services. The following are a few examples of these services.

3.1 Academic Advisement

OCCC offers academic advising to students through the Student Services Department. All aquarium science students should meet with an advisor in Student Services on a regular basis to ensure that graduation requirements are being completed in a timely fashion. It is recommended that students meet with an advisor each term before registering for the subsequent term.

3.2 Bookstore

Students may purchase textbooks and supplies at the College Bookstore. In addition to textbooks and supplies for classes, the College Bookstore has available for purchase Oregon Coast clothing. Each term during finals week, the Bookstore has a used book buy-back for textbooks that are needed for the next term.

3.3 Computer Labs

The computers in the library and commons are available to all students.

3.4 Counseling Services

Student Services is open during regular school hours for students who may need educational and vocational counseling. Appointments are to be scheduled.

3.5 Disability Services

The College provides a variety of support services to students with disabilities. All such services are elective and must be requested by the student. Any aquarium science student who requires accommodation for any type of disability should make an

appointment with Student Services. All information provided by students about disabilities is treated in a confidential manner.

3.6 Financial Aid

Any student needing financial assistance should contact Student Services. Loans, scholarships, and awards specifically designated for aquarium science students are available through this office.

3.7 Health Insurance

The Aquarium Science Program recommends that all incoming students carry some type of health insurance. Preventive measures such as immunizations are a student responsibility. Students are *not* covered by the College for health and accident insurance.

3.8 Job Search & Placement

OCCC does not provide job placement services. However, many resource materials are available in the library for resume writing and interviewing techniques.

3.9 Library Services

The library contains a collection of onsite materials that focus on courses taught at OCCC as well as an interlibrary loan service capable of locating materials throughout Oregon and the world and having them sent to OCCC. Computers are available to access library materials, electronic information resources, the Internet, and word processing programs. AQS students are usually granted courtesy access to the library at Hatfield Marine Sciences.

3.10 Student Clubs

Several clubs on campus are open to aquarium science students who desire to be involved in student activities. The Associated Student Government of OCCC is open to all. Phi Theta Kappa is an honorary society designed for students with a 3.50 or higher grade point average. The OCCC chapter is Beta Delta Lambda. Membership in this organization can benefit students with the prospect of scholarships and awards.

3.11 Sea Fans

The Sea Fans club is an OCCC Aquarium Science Student Organization that was established by aquarium science students who wanted to become more active within the college and community. Sea Fans membership is available to all college students enrolled at OCCC. Throughout the year, students who are enrolled as aquarium science majors, will receive notification of upcoming student social gatherings, volunteer activities, fundraising events, and scholarship offerings. The Sea Fans club is governed by its members through student-elected officers in the fall term. Faculty and staff serve as advisors. The Sea Fans club is a great place to meet people, have fun, and practice your leadership skills. Check out the latest Sea Fans activities on Facebook!

3.12 Tutoring Services

Tutoring assistance is available. Please complete a Tutor Request form, http://www.oregoncoast.edu/tutor-request, and submit to the Tutoring Center, Room 52 at OCCC's Central Campus.

Contact: Dana Gallup, Tutor Coordinator
Phone: 541-867-8502
Email: tutoring.center@oregoncoast.edu

3.13 Writing Center

Assistance with writing is available. Ask your aquarium science instructor for the current contact information of the writing center administrator.

4. Aquarium Science Program Policies, Expectations and Standards

Students enrolled in the Aquarium Science Program are expected to read, understand and comply with the policies set forth within this handbook in addition to the policies and information established in the general OCCC Student Handbook. Policies specific to the AQS program, regarding classroom, facility, labs, and general purpose, are included below. Some of these policies may also be found within the general OCCC Student Handbook. AQS students are expected to act in accordance to the policies herein while maintaining a high standard of professional ethics and academic integrity.

4.1 General Program Policies

4.1.1 Faculty Office Hours

Each full-time Aquarium Science instructor is available five office hours per week. These hours are posted each term on the course syllabus, and appointments should be made through the instructor. Students may make appointments at times other than office hours if the need arises. Full-time instructors will be available to respond to student e-mails or phone messages during business hours throughout the school term. Part-time instructors are not required to have set office hours per week but may post them on their course syllabi. Part-time instructors can be contacted via e-mail or through the class Canvas site throughout the school term to arrange for meeting appointments.

4.1.2 Faculty/Student Communication

Students will have the opportunity to impact the program and affect the curriculum through formal and informal evaluation methods (e.g. course satisfaction surveys). Individual concerns will be dealt with on an individual basis. Students with individual concerns are to discuss them directly with the appropriate faculty and may request the program Director or an uninvolved faculty member to be present for the discussion.

4.1.3 Absence and Tardiness

Students are expected to attend all classes and AQS required events, to report on time, and to submit all written work on time. Required AQS events include but are not limited to student orientation, facility meetings, and National Visiting Committee student events (see section 1.7.1 for further details). In the Aquarium Science Program, a high positive correlation has been demonstrated between regular attendance and satisfactory grades. Absence/lateness, therefore, may interfere with a student's progression in the program.

While it is a general College policy that students can only be evaluated on academic performance, for AQS students, participation in AQS facility maintenance is a program requirement. Class announcements, Canvas, bulletin board notices, and/or syllabi are used to communicate information about mandatory attendance. Students who continually arrive late for or miss mandatory sessions are subject to dismissal from the Program. Only strongly extenuating circumstances for lateness/absence for mandatory sessions will be considered in deciding whether to dismiss.

If absence/lateness is unavoidable, students are expected to follow procedures for reporting absence/lateness as outlined in this Handbook and in the course syllabus. An inappropriately reported absence/lateness will be regarded as unexcused, as will absence/lateness for reasons considered to be subject to control and planning by students (e.g., transportation, alarm clocks, work schedules, childcare). Students are responsible for the content of any classes, orientations, or skill demonstrations missed, whatever the reason for absence/lateness.

4.1.4 Children and Pets

In order to provide an effective educational environment for adults and to ensure the safety of children on campus, students are not allowed to bring children to classes nor are they permitted to leave their children unattended anywhere in the College or on the property of the College.

Students who bring children to class will be informed that they cannot attend class with children present. The College will take action for persons not cooperating with these procedures. All persons attending classes must be registered and officially enrolled (on the class roster.). Animals present must be for legitimate instructional purposes or authorized as service animals or service animals in training.

4.1.5 Emergency First Aid

Although CPR and First Aid classes may be made available for student participation and certification, Oregon Coast Community College does not require, nor does it have the expectation that students in the Aquarium Science Program will provide emergency first aid to staff, students, or visitors on our campuses. If a student administers first aid, he/she assumes the liability for such action.

4.1.6 Injury and Illness

For any condition, e.g. an illness, injury, prescription medications or surgery that could impact the student's ability to safely perform animal care or class work while maintaining their own safety, a statement will be required from a physician/licensed primary health care provider stating that the student is medically cleared to perform animal care responsibilities without restriction. If the physician identifies required restrictions, faculty will review the medical release form information provided by the physician/licensed health care provider and determine if the student can continue in practicum/lab/class work experiences. The student must provide the program Director or instructor with a copy of the medical release by the timeframe specified by the instructor.

Students must report all accidents or events that could endanger their health occurring during practicum and classroom training to the facility, instructor and College immediately. The instructor will assist the student in obtaining treatment, if required, and completing the required forms in accordance with institutional policy and OCCC policy. Worker's Compensation Insurance may cover student injuries in a practicum or internship facility, but students must contact their practicum/internship advisors to confirm. Worker's Compensation Insurance does not cover student injuries in the classroom or AQS lab setting and students are responsible for any associated costs.

4.1.7 Contraindications

There are numerous medical conditions that may not be compatible with some of the duties of a professional aquarist (injury, allergies, pregnancy, etc.). The student should notify the Student Services Coordinator if a physician places any restrictions on practicum/classroom performance. Faculty and college staff will review the medical information provided by the physician/licensed health care provider and determine how best the student can continue in practicum and lab experiences.

4.1.8 Employment Opportunities While in the Aquarium Science Program

Students may be presented with job opportunities, particularly within their field of study, while participating in the Aquarium Science Program. Although it is strongly discouraged by AQS program faculty and personnel, the program recognizes that accepting job opportunities, while still enrolled in the program, is within a student's personal right to pursue. However, AQS program faculty, staff and other personnel will not act on any student's behalf to secure a job opportunity, by means of avocation, recommendation or reference to a prospective employer, if such an opportunity takes a student away from his or her active enrollment status as an Aquarium Science Program participant. AQS program faculty, staff and other personnel may act on a student's behalf to assist with job opportunities, by way of avocation, recommendation or reference, if that opportunity is part-time in nature and does not interfere with his or her studies or is in support of fulfilling the internship assignment in order to complete the program. Students should not assume that any AQS staff will act as a reference for such things as scholarship applications, internship or part-time employment references. You should always discuss your application with anyone you wish to list as a reference.

AQS students who seek employment during their time in the program should note the following statements:

1. When students are employed by an institution or individual, they become an employee of that agency or individual and come under the rules and regulations, liability insurance, etc., of the agency by whom they are employed. During that employment, the student does not come under the jurisdiction of the College and is considered an agent of the institution for which he/she is employed.
2. The professional liability insurance for aquarium science students carried by the College does not cover employment.
3. Students who plan to work during the program need to be aware that it is virtually impossible to work full time and successfully complete the program.
4. While recognizing that some students may need to work while enrolled in the Program, the Aquarium Science Faculty, nevertheless, cannot adjust classroom, lab sessions, or off-campus practicum requirements to accommodate student work schedules.
5. Aquarium Science classes, labs, and practicum typically involve 20-30 hours of attendance per week plus an additional 40-60 hours of study, assignments, and animal care and maintenance at the Aquarium Science building. Meeting these requirements typically means that students will need to adjust employment and family responsibilities.

4.1.9 FERPA and Release of Educational information

In compliance with The Family Educational Rights and Privacy Act (FERPA), Oregon Coast Community College releases only very limited student information. All aquarium science students should be aware that some confidential information may be posted or shared. Each student may be required to sign a Use of Image and Information Authorization Form prior to beginning their studies. Information posted and shared may include the student's name at physical locations on campus, Canvas site, website and practicum assignment locations. Contact information may be shared with fellow students, college faculty and staff through standard mail, email and related documents. Images may be posted or shared for the purpose of promoting and communicating about the program on the college's website, Canvas class sites, and in physical postings related to the AQS program. For more information, see Student Records Policy and Procedures in the Student Handbook or go to the College website at http://www.oregoncoast.edu

4.1.10 Insurance

Students are not covered by health and accident insurance by the College. The College does provide limited liability coverage for student illnesses or injuries that result directly from activities required by course objectives at off campus practicum sites. This coverage is not available for on-campus laboratory activities. Student health insurance is highly recommended.

4.1.11 Non-Discrimination and Non-Harassment

Oregon Coast Community College is committed to maintaining a learning and working environment that is free of harassment for all people. Therefore, it is a violation of college policy for any student or employee to engage in harassment (including sexual harassment) of any other college student or employee based on personal characteristics, including, but not limited to race, religion, color, gender, sexual orientation, national origin, age, marital status, parental status, veteran status, or disability. Any student, employee, or organization with a substantiated violation of this policy will be subject to disciplinary action including possible suspension and/or expulsion, or dismissal.

The College has regulations and procedures to disseminate this policy, to train supervisors, to provide channels for complaints, to investigate all complaints promptly and carefully, to develop and enforce appropriate sanctions for offenders, and to develop methods to raise awareness and sensitivity among all concerned. Students subject to any harassment or discrimination should direct grievances to the Director of Student Services.

4.1.12 Sexual Harassment

It is the policy of Oregon Coast Community College that all students and employees learn and work in an environment free from sexual harassment and discrimination. OCCC will not permit sexual harassment in the academic environment or workplace at any time. Each student and employee is responsible for assuring that the college environment is free from sexual harassment.

As defined in Oregon Administrative Rules (OAR) 839-07-550, sexual harassment is a form of discrimination related to or because of, a person's gender. Unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature constitute sexual harassment when the conduct is directed toward an individual because of his/her gender and:

(a) submission to the conduct is made either explicitly or implicitly a term or condition of his/her student status or employment status, or
(b) submission to or rejection of the conduct by an individual is used as the basis for academic or employment decisions affecting him/her, or
(c) the conduct has the purpose or effect of unreasonably interfering with an individual's performance as a student or work performance or creating an intimidating, hostile, or offensive working relationship.

Students who have been the subject of sexual harassment from OCCC staff, faculty or fellow students will report the problem to the College's Student Services Director or the Human Resources Director. Investigations will be conducted with discretion and concern for the protection of individual privacy. Upon the determination that an act of harassment has occurred, immediate and appropriate corrective action will be taken.

Students who instigate or participate in sexual harassment will be subject to disciplinary action up to and including expulsion. Employees who instigate or participate in sexual harassment will be subject to disciplinary action up to and including dismissal. No student will be expelled, suspended, or otherwise harassed or discriminated against because he/she has filed a complaint, or has objected to, or testified about, a possible violation of the law and/or OCCC policy. No form of retaliation will be taken against any student or employee who reports an incident of alleged harassment. Students or employees who knowingly bring false or fabricated complaints of sexual harassment will be subject to disciplinary action up to and including expulsion and/or dismissal respectively.

4.1.13 No-Show/Drop

Oregon Coast Community College has a No-Show/Drop procedure. If a student does not attend orientation and the first class session or does not contact the instructor prior to missing the first class session, the student may be dropped at the discretion of the program Director. If a student is dropped under this procedure, the student will be mailed a notice informing him/her of the date they were dropped, the course number and name, and the instructor name. **Note:** This may affect the student's eligibility for tuition assistance if he/she is a veteran, on financial aid, or sponsored by an agency.

4.1.14 Transportation

Students are responsible for their own transportation to and from school, lab locations and practicum facilities. Some practicum facilities may require 30 minutes or more travel time to and from campus. Students may also have the opportunity to share rides with other classmates when this does not interfere with their assignments.

4.1.15 Volunteerism

The residents of Lincoln County have been active proponents of supporting the community college and the development of the aquarium science program. In our appreciation, the aquarium science program would like to support our county with reaching out with volunteer time. As a student at Oregon Coast Community College volunteering of time/self are highly valued and encouraged. At least three hours of volunteer time per quarter is highly encouraged.

Areas of possible volunteerism:

- AQS activities: SeaFans, fundraisers, AQS facility and campus tours
- Non-aquarium science: student government, Phi Theta Kappa
- Non-college based activities: Loyalty Day Parade, Marine Science Day, World Oceans Day
- External facilities/organizations: Oregon Coast Aquarium, Hatfield Marine Science Center, Surfrider Foundation, etc.

4.1.16 Substance Abuse

Substance abuse (either using or being under the influence of alcohol or other drugs) and illegal activity (possession, distribution, manufacture, transfer, sale or offering for sale alcohol or any narcotic, hallucinogen, stimulant, sedative, or similar drug other than in accordance with legal requirements) are strictly prohibited on College-owned and College controlled property or while representing the College in any capacity, including during off campus practicum and internship assignments. Aquarium Science students engaging in such conduct will be subject to disciplinary action including dismissal from the Program.

Students who need advice or assistance in dealing with a substance use problem should seek out an advisor in the College's Student Services for referral to an Alcohol and Drug counselor.

1. All allegations of illegal activity related to chemical substances will be referred to the Dean of Instruction for investigation. The Dean will consult with the Aquarium Science Faculty/Staff and Director about the status of the student in the Aquarium Science Program while the investigation is conducted. If the investigation reveals that the student engaged in illegal activity on College-owned and College-controlled property or while representing the College in any capacity, the student will be dismissed from the Program.

2. In all aspects of providing animal care, aquarium science students must perform safely and effectively. They are, therefore, responsible for avoiding potential adverse effects on their behavioral, physical, emotional, and mental states that could result from the use of drugs, whenever and wherever taken, including alcohol and any "over the counter" or prescription medications. Students who are authorized to use marijuana for medical reasons under the Oregon Medical Marijuana Act must submit a copy of their current registry card to the Director of the Aquarium Science Program. The authorized use of marijuana for medical reasons does not relieve the students of the responsibility to perform safely and effectively when providing animal care. Students are encouraged to notify their faculty they are taking medications that may have an adverse effect upon their classroom performance so that faculty may help students manage potential problems.

3. Based on the established agreements of the Aquarium Science Program with practicum sites, it is the duty of an instructor or the student's immediate supervisor to dismiss students from the practicum setting if there is any question of the student's ability to function safely and responsibly in animal care. These agreements recognize the right of practicum sites to exclude students who exhibit unsafe or irresponsible behavior. Such exclusion could mean that a student would not be able to achieve course outcomes and could, therefore, not be able to continue in the Aquarium Science Program.

4. Performance, behavior, appearance, or breath odor may suggest the use of alcohol or other drugs. Some examples of signs that may indicate substance use are:

    - A change in a person's behavior
    - Bloodshot eyes
    - Emaciated or unusual weight loss
    - Tremor, especially early morning
    - Dilated or constricted pupils
    - Slurred speech
    - Inappropriate or bizarre emotional responses
    - Altered/impaired gait
    - Breath odors
    - Repeated tardiness or absence
    - Diminished work performance, including mental functioning
    - Accidents or near-misses involving equipment

5. When indications of substance use are detected while a student is engaged in activities on campus, the student will be required to explain the findings. At the discretion of the Aquarium Science Faculty, such explanations may need to include the report of testing of body fluids for chemical substances. In consultation with the Director of Aquarium Science Program, the Aquarium Science Faculty will decide whether and what disciplinary action is appropriate. At a minimum, the student will be directed to read this policy again. Any further indications of substance use will require that the student undergo immediate testing for the presence of alcohol or other chemical substances. Test results will be used to review the student's status in the Program.

6. When indications of substance use by a student are detected in a practicum setting, the student will be suspended from the practicum component of the Program and be required to undergo immediate testing for the presence of alcohol or other chemical substances. The Aquarium Science Faculty and the Director of Aquarium Science will review the student's Program status. Factors that will be considered in this review include whether the student exhibited unsafe performance or irresponsible behavior in animal care and whether test results are positive.

7. Possible outcomes of the review of a student's status in the Program include continuation in the Program with an action plan to prevent a recurrence of the problem, continuation in the Program on probation, or dismissal. Any of these decisions can be appealed using the process outlined in the College's *Student Rights and Responsibilities* document (copy available at Student Services office).

8. Before being permitted to continue in the Program:
    - Students must undergo, at their expense (including testing), evaluation by a qualified drug and alcohol abuse counselor.
    - Students must permit the counselor to document to the Director of Aquarium Science that such an evaluation has been done and, if test results were positive, that treatment plan has been developed.
    - Students must sign an agreement to follow the Program's substance use policy and any treatment and monitoring program prescribed by the counselor, including submitting to random drug testing.
    - Students must agree that the counselor may document to the Aquarium Science Director every two weeks the students' ongoing abstinence and continued participation in treatment and rehabilitation.
    - Other conditions may be specified for students' continuation in the Program based on the circumstances of the situation.

    After being permitted to continue in the Program:
    - Students must demonstrate safe, responsible, and effective care of animal at all times.
    - Students must comply with the conditions of probation or be dismissed from the Program.

9. Testing for substance use consists of conducting laboratory tests on samples of the student's blood, breath, and/or urine, whichever is appropriate, to detect alcohol and other chemical substances. Whenever possible, students must provide the sample needed for testing within 60 minutes of the time practicum was suspended. Collection and testing of body fluid specimen(s) will employ procedures that maintain the integrity of the specimen(s). Students will be responsible for arranging their own transportation for testing.

    Testing required by the Aquarium Science Program to corroborate or refute a suspicion of substance use will be arranged for and paid by the Program. Payment for any subsequent testing will be the responsibility of the student. The test results will be reported directly to the Director of Aquarium Science by the testing facility.

    Refusal to provide specimens of body fluids for testing or failure to provide the necessary consents to implement this policy, including consent for direct reporting of test results to the Director of Aquarium Science, will be interpreted as an implied admission of substance use and grounds for dismissal.

    Students found to have positive test results will either be placed on probation (see conditions for continuation on probation outlined above) or dismissed from the Program.

10. Practicum or class time missed while the requirements and procedures of this policy are implemented will be regarded as follows:
    When lab tests for substance use are positive or when the student is shown to have engaged in illegal activity, time missed will be regarded as unexcused absences. There is no obligation by the Aquarium Science Faculty to offer make-up time. (See section of this Handbook on Absence/Lateness.)
    When lab tests are negative and when a student is cleared of an allegation of illegal activity, students will be provided opportunities to make up missed practicum time, assignments and missed class content. Students will be expected to take advantage of these opportunities to demonstrate their achievement of the course outcomes.
    Notwithstanding the preceding, there are time limits on accommodating missed time from the Program. Any protracted time needed for implementing this policy (e.g., obtaining consents and samples for testing, reporting results, assembling documentation required for continuation on probation) may require that students withdraw from the Program.

11. Students may choose to withdraw from the Program to manage and control a substance use problem. Students who withdraw, as well as students dismissed for substance use, may be permitted to return to the Program on condition that they provide documentation to the Director of Aquarium Science that abstinence has been maintained for a period of six months prior to returning to the Program. Students who return to the Program after withdrawal or dismissal for substance use will be on probation with the conditions outlined above. The process and conditions outlined in this Handbook in the section on Student Re-admissions apply here also.

12. Students have a legal and ethical responsibility to report peers who are suspected substance users. This may be done by contacting the Director of Aquarium Science or Faculty/Staff, and may be done anonymously.

4.1.17 Re-Entry

Re-entry is defined as re-entering the aquarium science program as an Oregon Coast Community College aquarium science student at some point other than at the beginning of the program. A request to re-enter usually occurs when the student has been absent from the program due to suspension or withdrawal.

1. Any student who seeks readmission to the Program must follow application procedures and Program requirements in effect at the time of re-entry. Because Aquarium Science courses must be taken as a whole, re-entering students are required to meet all requirements for the course of re-entry, even if this means repeating previously completed coursework.

2. Re-entry is based on space available, college resources and an assessment of the students' current knowledge and ability to be successful.

3. A student is eligible for re-entry if all curriculum courses required in the term(s) prior to the term of entry have been completed and are current where time limits apply.

4. Applications for entry at any point in the year other than the beginning of the program must be submitted to the program Director.

5. Students who have not attained a C grade in any aquarium science course more than once, or failed to earn C's in two separate aquarium science courses, or withdrew while not in good standing more than once will not be considered for re-entry or admission to the program.

6. If a student is dismissed from the program because of serious or multiple breaches of safety or professionalism, the student will not have the option of re-entry to the program.

When considering any application for re-entry, advanced placement or transfer, faculty will discuss and prioritize the request for entry into the available spaces based on the following criteria:

Category 1: Returning students who were in good standing in both lecture and practicum portion of the course. Note: Good standing in theory means that the student individual test average was ≥75%, and good standing in practicum means the student was meeting all practicum competencies for that point in the program.

Category 2: Returning students who were in good standing in practicum portion of the program, but whose individual lecture averages were <75%.

Category 3: Returning students who were in good standing in lecture portion of course, but who were not in good standing in practicum portion of program (were not meeting one or more critical benchmarks for practicum).

Category 4: Returning students who were not in good standing in either theory or practical portion of the course.

Should there be more requests for re-entry than spaces available, admission of re-entry will be offered to the student placed in the highest category, with the highest GPA in aquarium science courses taken prior to the aquarium science course from which the student exited the program.

4.2 Classroom Policies

4.2.1 Academic Integrity

Graduates from the Aquarium Science program are expected to perform in a manner that reflects the standards defined by the aquarium science profession. For this reason, the expected conduct, outlined as follows, should be viewed as necessary preparation for the ultimate role that the student will assume when entering the profession.

Interactions in class, practicum and internship settings are to reflect professionalism and civility as evidenced by caring, fairness, respect, acceptance of responsibility and trustworthiness. Class and practicum should be treated as a work setting. Unexcused absences and tardiness to classes, laboratory sessions, field trips, practicum assignments and internship assignments are unacceptable and may result in disciplinary action, poor grades, or dismissal from the program. It is expected that students arrange absences with instructors, practicum mentors and internship supervisors with a minimum of 24 hours advanced notification, when possible, unless such absence or tardiness is due to an emergency or unexpected late illness.

4.2.2 Policy Regarding Cheating and/or Plagiarism

As stated in the policies related to academic integrity, students are expected to practice academic honesty. Instructors have the responsibility of planning and supervising all academic work to encourage honest and individual effort and for taking appropriate action if instances of academic dishonesty are discovered.

4.2.3 Honesty is a professional characteristic vital to the practice of safe husbandry and is expected of all students. Therefore, in academic, practicum and internship settings, the AQS student is expected to demonstrate integrity and truthfulness in all activities. In the academic setting, breaks in these areas usually include presenting the works of others as one's own by cheating or plagiarizing. In the practicum and internship area breaks appear when personal or others' errors are not reported.

4.2.4 Cheating is an act defined as gaining unfair academic advantage through duplicity, deception or dishonest activities. Cheating especially relates to taking exams and/or obtaining assistance from another person or any data source other than one's own personal knowledge. It also includes giving information, materials or other work to another person that facilitates falsification of that person's knowledge or work. In the AQS program at OCCC, evidence of cheating will result in no credit for a given exam or other assignment. A second occurrence will result in dismissal from the program with no option to return.

The term "cheating" includes but is not limited to:

- Having or using unauthorized materials during any test situation.
- Looking at another student's work during any test situation.
- Changing answers on a returned quiz, assignment or exam in order to claim

there had been a grading error.
- Discussing the content of any test with individuals who have not yet taken it.
- Turning in work that was generated or partially generated by other individuals (unless specifically allowed by an instructor) or by the same individual in the same or a prior term (unless specifically allowed by an instructor).
- Obtaining prior or current exams without the instructor's permission.
- Plagiarism

4.2.5 Plagiarizing is defined as presenting as one's own the ideas or words of another from any print, electronic or other source without reference or credit to the source. The term "plagiarism" refers to the use (either intentionally or unintentionally) of another person's words or ideas without giving credit to that person. It can include actions such as buying or borrowing an entire paper or assignment from someone (including from an electronic source such as the Internet) or copying phrases, sentences, ideas or large sections of text from any source without using quotation marks appropriately or without citing the source. The faculty will check papers for plagiarism. The department will individually evaluate plagiarism and assign a penalty such as a failing grade for the assignment, the course, or other disciplinary action.

4.2.6 Copyright Violations are the unauthorized use of copyrighted materials from any source, including but not limited to print and electronic media, is an act of academic dishonesty. Copyright violators are subject to legal penalty. Contact the Dean of Instruction or the Director of Library and Media Services for a complete copy of OCCC's copyright policy.

4.2.7 Canvas

Canvas is an integral part of all aquarium sciences courses and access to a computer (at home or at the College) will be required on a daily basis. Required quizzes and assignments completed outside the classroom typically utilize the various tools of Canvas. Students are expected to have access to a personal computer or otherwise, with Internet access, in order to utilize the Canvas site and to perform assigned coursework (unless otherwise arranged with the instructor). Students without access to a personal computer or otherwise can use designated college computers on campus during college operating hours.

4.2.8 Testing Policies

Exams will be given as scheduled. Test-taking times will be strictly adhered to; students arriving late will submit their test when time is called. **Students are required to notify the course instructor <u>BEFORE</u> the exam is given if unable to take an exam or arrive on time.** The instructor's contact information should be given at the beginning of the course and located in the class syllabus. Students must make arrangements to take missed exams with the instructor in a timeframe determined by the instructor. Students who repeatedly arrive late for or miss exams may endanger their progression in the Program.

4.2.9 Grading Policies

The grading system for Aquarium Science Program courses is based on letter grades. Some aquarium science courses include lab and lecture components. *Students must earn a C or higher to apply a course to the AQS degree or certificate.* Students that fail earn a C must retake the class which will extend the student's time of study by a year in most cases. Failure to earn a C on the second attempt, or failure to earn a C in two separate courses will result in suspension from the Aquarium Science Program. (See 4.1.17 for the reentry procedure).

Lecture and Lab grades are based on points achieved in tests, quizzes and graded written assignments, with an average of 70 percent required for passing the course. Details for determining the course score that is used for assigning a course letter grade are contained in course materials. The following are course score ranges for course letter grades:

A	=	90 - 100	C	=	70 - 79.99
B	=	80 - 89.99	D	=	below 70

4.2.10 Grievance Procedure

When there is a difference of opinion regarding college procedures, policies, decisions, values or treatment, students at OCCC are encouraged to seek a resolution with the individual the conflict exists with, or his/her supervisor. This grievance procedure has been established to provide individuals or groups of students the opportunity to challenge decisions and/or actions taken by faculty, staff or other students, which they feel are in violation of their rights.

4.2.11 Incompletes

Incompletes are rarely assigned in aquarium science courses because of the limitations that are available for a student to complete the course requirements before the next term. According to college policy, students are not allowed to register for the next course in sequence if the prior course objectives were not met. Therefore, an incomplete will be considered on an individual basis.

5. AQS Facility

5.1 Background and History

The Aquarium Science building was constructed in 2010 and was opened for classes in the fall of 2011. This 9,200 sq. ft. facility, located at the Oregon Coast Community College campus in Newport, was built with State and Lincoln County funds. The AQS building is designed to be a teaching facility and laboratory that mimics the organization and setup of working spaces typical of a public aquarium facility. Spaces include a water quality lab, teaching lab, animal holding lab, food preparation lab, life support room and workshop. A brief description of each of these areas can be found below. The facility was built with operational and energy efficiency in mind using recirculating heat and solar panels. It is

equipped to support both freshwater and marine systems. Seawater is made on site, and both cold and warm water lines run throughout the building. The key intention of the AQS facility is to provide an environment for Aquarium Science students to gain knowledge and hands-on skills that will assist them in the Aquarium Science industry.

5.2 Area Descriptions

5.2.1 Lobby (Student Lounge)

The AQS Lobby is equipped with tables and chairs that provide students with an area to study, meet other students, start off lab sessions, and/or work on projects between classes. Food and drink are not allowed outside the Lobby area.

5.2.2 Water Quality Lab

The Water Quality lab was established to support the testing and monitoring of water quality and animal health. The lab is equipped with dissecting microscopes, compound microscopes, balances and water quality testing equipment and reagents. Some of the main courses in which the Water Quality Lab is used are Intro to Aquarium Science (AQS 100), Biology of Captive Fish (AQS 215), Biology of Captive Invertebrates (AQS 220), Reproduction and Nutrition of Aquatic Animals (AQS 232), and Fish and Invertebrate Health Management.

5.2.3 Food Prep Lab

The Food Prep lab is designed to instruct students in the proper storage, preparation, handling and delivery of aquatic animal food items and supplementation. The Food Prep lab also supports food preparation for animals kept in aquaria throughout the facility. The lab is lined with stainless steel counters that contain deep sinks and storage cabinets. The room is equipped with a freezer, refrigerator, cutting boards, knives, blenders and various other items to aid in the preparation and storage of food items for aquaria animals. The main classes that utilize this area include; Intro to Aquarium Science (AQS 100), Biology of Captive Fish (AQS 215), Reproduction and Nutrition of Aquatic Animals (AQS 232), and Fish and Invertebrate Health Management.

5.2.4 Live Culture Area

The Live Culture Area is part of the food prep lab that allows for the culturing of live food items (algae, rotifers, etc.) for animals kept in aquaria throughout the facility. This room is also equipped with environmental system water lines and central aeration supplied from the Life Support Room. Various culture vessels and equipment specific to rearing live food items are contained in this area. Some of the classes that use the Live Culture lab include; Biology of Captive Invertebrates (AQS 220) and Reproduction and Nutrition of Aquatic Animals (AQS 232).

5.2.5 Life Support Systems Room

The Life Support Systems (LSS) Room is located on the far end at the east side of the building. The LSS room is only accessible by AQS program personnel through designated external doors on the building. Students may access the LSS room only under the supervision or authorization of facility personnel and/or instructors. The LSS room is equipped with water containment vessels each holding designated environmental water quality parameters for the make-up supply of warm freshwater, warm saltwater, and cold saltwater aquarium systems. Water lines from each of the different containment vessels are labeled and run to supply locations throughout the facility. The LSS room also contains a centralized air blower, which supplies low pressure air to various locations throughout the facility. Although not designed as an instructional space for classes, the LSS room does support demonstration activities for the Life Support Design and Operation course (AQS 240).

5.2.6 Animal Holding Lab

The Animal Holding room is the largest room in the building. The room is equipped with centralized environmental system water lines and aeration from the LSS room as well as drains and power. Water, air and power are all supplied from overhead in order to allow for a flexible layout and space. The room contains both freshwater and marine aquaria which AQS students and facility personnel maintain and care for. In addition to the live aquaria located in the Animal Holding lab, the room contains the main disinfection materials and equipment for the maintenance and biosecurity of the various aquarium systems. The room also has a salt mixing system used to supply the saltwater make-up reservoirs in the LSS room. Virtually all AQS courses participate in the use of this area at some point in their term of study.

5.2.7 Student Workshop

The Student Workshop is equipped with materials, machinery and tools intended to aid students in the design and construction of various aquarium science related projects. Students are taught throughout the curriculum the proper handling and use of each material, machine and tool in the workshop. Safety is a key consideration when using the equipment in this area and strict adherence to safety policies, protocols and procedures are enforced (see Safety Polices included in this handbook). The main courses that utilize the workshop in support of associated activities and projects include; Intro to Aquarium Science (AQS 100), Life Support Design and Operation (AQS 240) and Exhibits and Interpretation (AQS 252).

5.2.8 Teaching Lab

The Teaching lab is equipped with lab seating for 24 students. This lab space is the only area set up with traditional classroom instruction equipment (i.e. projector, screen and whiteboard) integrated with lab activities. Overhead water lines supply cold and warm fresh and saltwater as well as power and central aeration to the area allowing for aquaria to be set up in the lab space. Drains line the floor to prevent flooding when setting up and breaking down aquaria. The lab is also equipped with dissecting kits, a fume hood, sinks,

counters for workspace, and cabinets for storage. Most of the courses in the program use this space for instruction, lab activities and projects.

5.2.9 Storeroom

The Storeroom is located centrally in the facility and contains various supplies needed for both the facility system maintenance and husbandry as well as for teaching labs. Items in the storeroom include filtration components, lighting equipment, pumps, aquarium maintenance equipment, aquarium tanks, and plumbing materials. Items are organized and kept in an orderly fashion and must be returned to the location they are retrieved. Students may utilize supplies and items in the storeroom in support of aquarium science program and class related assignments, projects and activities.

6. Facility Policies, Expectations and Standards

Students enrolled in the Aquarium Science Program are expected to read, understand and comply with the policies set forth within this handbook. Policies specific to the AQS program in regard to the AQS facility and labs are included below. AQS students are expected to act in accordance to the policies herein while maintaining a high standard of professional ethics and respect for OCCC owned property and equipment.

6.1 General Facility Policies

6.1.1 Permissible Facility Use and Authorized Access

The AQS Facility is only accessible to authorized OCCC faculty, staff, AQS facility personnel, and actively enrolled AQS students. Access to the facility requires a key card and pass code to disarm the building alarm; these must be approved by AQS Director and issued by Director of Facilities. If the building alarm is triggered, security will report to the building. Any unauthorized parties found on the premises will be asked to leave. No pets are allowed in facility.

6.1.2 Hours of Use and Operation

The AQS hours of use and operation coincide with the college business hours of 8 AM to 8:00 PM, Monday through Thursday, 8:00 AM to 5PM Friday. Students are allowed in the AQS facility during posted hours without special permission, these hours are typically restricted during the Fall term. Students should not enter the AQS building outside of posted hours unless they have the permission of the Director or are accompanying AQS staff. If students are working during non-business hours in the facility, for safety, there should be a minimum of two people in the facility at one time (i.e. another AQS student, staff or faculty), and restrictions may be applied to the types of activities a student may perform (a list of authorized activities will be provided). Course and/or program activities required during these hours will require supervision from authorized personnel and special permission from the program Director.

6.1.3 Visitors and Guest Authorization

Students are allowed to bring guests or visitors through the facility. However, guest or visitor access requires permission (minimum 24 hour notice) from the AQS Director. In AQS Director's absence, seek permission from AQS facility personnel. Any groups of visitors numbering 6 or greater are considered a tour. Tours require permission/authorization/approval from AQS Director and may require a college faculty or staff member as a tour guide. Tours are generally arranged through the AQS Director. Guests are not allowed to conduct work or use equipment unless authorized by AQS Director or appropriate personnel. Students should not do animal care or system maintenance while giving tours.

6.1.4 Facility Dress Code

The AQS Facility is first and foremost a working environment. Therefore, appropriate attire is required for safety and sanitation. Appropriate dress may depend on the activities conducted in the facility, but should generally consist of work clothes which the student may get, wet, damaged, dirty, fouled, etc. The college is not responsible for supplying or replacing clothing for AQS related activities. No open-toed shoes or sandals are to be worn in the facility at any time. Closed toed shoes should be equipped with adequate tread or grip for wet floor application in the facility. Waterproof slip resistant shoes are preferable. It is highly recommended that jewelry such as bracelets, rings, and necklaces be removed while working in the facility. The removal of jewelry limits the risk of property loss, impact on aquariums and self-injury. Again, the college is not responsible for supplying or replacing any lost jewelry for AQS related activities.

6.1.5 Food and Beverage Policy

No food or drinks are allowed in any area outside the common student lobby area. All waste and recyclables should be disposed properly. This includes any spills or dropped items on table and floors. Do not leave food items in the lobby unattended. These will be thrown away if left for longer than a day.

6.1.6 Use of Equipment and General Property

All equipment, materials, or items found in the facility, purchased by the college or donated to the college, are the sole property of the AQS program. Therefore, equipment, materials, and/or items in the facility may not be removed, borrowed or taken from the facility unless expressly authorized by the AQS Director and/or authorized faculty and staff. Likewise, equipment, materials, and/or items in the facility may not be used for personal use, hobby or in aid of a third party unless authorized by the AQS Director. Discovery of equipment use for personal or third-party use or gain without authorization, will result in immediate disciplinary action including revocation of facility privileges leading up to a dismissal from the program.

Use of equipment, materials or items that are not property of the college or AQS program is not permitted unless authorized by the AQS Director or designated personnel. Proper use and care of equipment is always required. AQS students, faculty and staff must follow all protocols and procedures associated with the item(s) whether it is factory/supplier

manuals and/or program generated material. Safety protocols and procedures associated with facility (see safety policies) must be implemented at all times when handling facility equipment. Discovered abuse or misconduct while using equipment will result in immediate disciplinary action, including revocation of facility privileges and up to dismissal from the program.

Students are only authorized to use items (i.e. life support equipment, hand tools, power tools, lab equipment, chemicals, materials, etc.) of which they have been properly trained by AQS faculty/staff. Note that some equipment can only be operated with supervision (see Safety policies). All items must be put back in their proper designated location or where originally found, in a neat and orderly fashion, after each use. Items must be returned to the original condition in which they were found (clean, dry, salt water free, etc.). When possible, utilize used equipment that is available in storage as opposed to new equipment.
Working surfaces (floors, counters, cabinets, shelves, etc.) must be kept neat, clean and tidy always. These areas must be cleaned (often disinfected) and organized after each use. Proper cleaning techniques will apply according to any training and/or written protocols and procedures.

Personal items should be stowed in proper designated locations and not for long-term use. Personal items should be removed/taken with the student each time the student leaves the facility.
No food, drink, associated containers and waste should be left in the facility unless properly disposed of.

The following list of activities are permitted in the facility during normal operating hours or within non-business hours as authorized by the AQS Director:

- All husbandry activities associated with established operating aquarium systems of which proper training has been administered (i.e. routine cleaning, water changes, water sampling/testing, filter changes and feeding)
- Minor modifications to husbandry equipment and established operating aquarium systems of which proper training and authorization have been given (i.e. minor equipment repair, addition or replacement of auxiliary equipment such as heaters, submersible pumps, aeration, hang on filtration, etc.).
- Routine water quality testing and use of laboratory equipment of which proper training and authorization have been given
- Routine use of food preparation equipment of which proper training and authorization have been given
- Routine use of chemicals for cleaning, water quality testing, water treatment, salt mixing, bio-security, etc. of which proper training and authorization have been given

- Use of hand tools, power drills, step stools 3 ft. in height or less, cleaning equipment (i.e. shop vac), and any shop items of which proper training and authorization have been given

The following list of activities are permitted with supervision in the facility during normal operating hours or during non-business hours as authorized by the AQS Director:

- Major modifications to husbandry equipment and established aquarium systems as well as the construction of new aquarium systems and or installation of new equipment (i.e. special projects). Activities during special projects may become more "routine" and allowed without supervision during normal operating hours if authorized by appropriate AQS facility personnel.
- Any work associated in the Life Support Room
- Use of all power saws and grinding equipment (compound miter saw, radial arm saw, reciprocating saw, table saw, circular saw, jig saw, router, power grinder, or power sander)
- Use of ladder or similar device for access to work requiring over 3 ft. in height.

The following list of activities are <u>always prohibited in the facility</u>:

- Improper use or unauthorized alteration of equipment, chemicals and materials within the facility
- Use of unauthorized equipment, chemicals, and materials.
- Social gatherings or personal engagements not associated with AQS Program activities.
- Pervasive use of foul and offensive language.
- Horseplay, running, etc.
- Loud music and videos on personal electronic devices: If headphones are used, a person needs to be able to hear beyond the volume of the sound from the device to which they are listening. The college is not responsible for the replacement or repair of lost or damaged personal electronic devices used during AQS activities.

6.2 Animal Policy

6.2.1 Animal Care Ethics/Etiquette

Handing of specimens should be done in accordance with established protocols, procedures and training. Any unauthorized handling of animals (particularly dangerous or venomous animals) is prohibited. Use of proper handling equipment (such as nets, containers and bags) is required and may be specified for certain species.

Humane treatment of animals is always required. Animals should never be handled, manipulated or contained in a manner that is deemed unethical or inhumane according to the following guidelines:

1. Provide animals with humane care and living conditions at all times.
2. Will not allow others to cause undue stress or physical harm to the animals or treat them in an inhumane or cruel manner.
3. Will not provide any animals to any facility (a) for the purpose of providing game or recreation, (b) for eventual disposition in any animal auction, or (c) to be farmed for parts or products, which are collected by invasive means.
4. Will not provide any animals to any facility for the purpose of invasive research, which is inconsistent with research policies of OCCC and the AQS Program represented therein. Research programs, which contribute directly to the needs of the animal or provide information or direct benefit to the health and conservation of the species, may be acceptable if research is conducted in such a manner that there is little or no discomfort or psychological stress to the animals. Any student wishing to conduct research on an animal must fill out the Research Request Form and have it signed by the AQS Director (see Appendix) before proceeding with their project.
5. Will comply with applicable federal, state and local law, and that has obtained and will maintain all required licenses, permits and approvals for the acquisition and care of the animals.
6. Able to financially and materially provide the requisite care and living conditions.
7. Never to knowingly sell or transfer animals to any third party for a purpose inconsistent with the terms of established animal disposition policies and procedures.

Any person or persons found acting in violation towards this policy will be subject to disciplinary action leading up to dismissal from the program.

6.2.2 Animal Acquisition

It is the goal of OCCC to always acquire animals from the most appropriate and sustainable sources keeping the health and welfare of the animal(s) in mind. Although the majority of aquarium specimens are sourced from the wild, whenever possible, the acquisition of specimens from surplus or captive bred sources should be considered first. Acquisition of animals from any source must be done so in adherence to this policy while

following the established animal acquisition protocols and/or approval from the AQS Director.

Selection of New Animals

Proper species selection is a vital step in the animal acquisition process. The selection of animals for care at OCCC must be done so in support of the facility's educational function, institutional goals and established collection plan therein.

It is important to select species that are appropriate and compatible to the facility, the existing animal collection and aquarium systems therein, as well as within the expertise or abilities of the personnel charged with their care. Improper selection of incompatible species will result in consequences such as aggression and unnatural behaviors that place the general health of a system population at risk. An aquarium system must provide a habitat that will allow the animal(s) selected to behave naturally. This will contribute positively to an animal's overall health and welfare, allow for natural longevity, and encourage reproduction.

Animals will be selected according to compatibility with captive life, and where species do not thrive in captivity further investigation will be undertaken involving the program's senior staff, veterinarians, and members of other reputable establishments throughout the world (i.e. other public aquariums, museums, and marine science institutions). Until such investigations are completed, or if it proves impossible to keep a species satisfactorily, then it will no longer be kept by OCCC.

Any species not yet kept by OCCC or infrequently cared for in the professional aquarium industry as a whole, yet deemed appropriate as a potential captive specimen, must be thoroughly investigated prior to acquisition. Prior to trialing a new species, extensive research and development will be undertaken to gain knowledge of husbandry requirements from other establishments, and to ensure best practice is in place on arrival. In general large migratory fish species will not be kept in captivity unless there is significant benefit to be gained through the education of, or by highlighting the conservation status of these animals.

Any animals listed as endangered under the Endangered Species Act or on the IUCN endangered list will not be collected from the wild. However, endangered species can be kept when/where captive bred populations are available and it is felt that participation in holding and potentially breeding these creatures will further benefit them. Information gathering for this process will be the responsibility of the AQS program senior staff.

Selection of Acquisition Source

Aquatic specimens may be acquired from a variety of possible sources. It is the goal of the AQS Program to always acquire animals from the most appropriate and sustainable sources keeping the health and welfare of the animal(s) in mind. Selection of a proper

animal acquisition source may often depend on availability of animal(s) desired for acquisition. However, sources considered inappropriate for any reason in regards to use, care, handling or collection, should under no circumstances be utilized. Although the majority of aquarium specimens are sourced from the wild, whenever possible, the acquisition of specimens from surplus or captive bred sources should be considered first. Acquisition of animals from any source must be done so in adherence to this policy while following the established animal acquisition protocols.

Surplus Sources

When considering the acquisition of an animal(s), sources of surplus specimens should be considered as a priority option whenever possible. However, surplus sources considered inappropriate for any reason in regards to the use, care, and/or handling of its animals, should under no circumstances be utilized. Priority of surplus animal sources should be considered first among reputable public aquarium facilities that are AZA accredited organizations, credible museums, academic institutions, and marine science research facilities. Animals considered for acquisition from the pet trade and home hobby aquarists require special consideration. Acquisition of animals as surplus from such sources should be considered only on a case by case basis and approved by AQS program senior personnel. Newly acquired surplus animals should be quarantined for a suitable period of time prior to introduction to established systems.

Captive Bred Sources

Sources of captive bred specimens should be considered as a priority option whenever possible. However, captive bred sources considered inappropriate for any reason in regards to the use, care, and/or handling of its animals, should under no circumstances be utilized. Priority of captive bred animal sources should be considered first among reputable aquaculture facilities and farms such as those subscribed to the National Fish Breeders Registry. Newly acquired captive bred animals should be quarantined for a suitable period of time prior to introduction to established systems.

Wild Caught Sources

Suppliers of animals collected from the wild will be selected for their efforts to reduce the impact on the environment and stress on the animals involved during the collection process, as well as for their efforts to develop alternatives to wild collecting. Priority of wild collected animal sources should be considered first among the most reputable collectors and suppliers such as those that practice the standards of the Marine Aquarium Council (MAC) and other such certifying authorities. All suppliers and collectors of aquarium specimens must hold all necessary permits and follow all rules and guidelines of local, regional, national and international governing authorities and agencies.

Where OCCC sponsored collection of animals from the wild is required or carried out, the collection methods utilized must be selected to have the least amount of impact on the environment and the populations of the wildlife involved. AQS staff, faculty and

students involved with collecting wild specimens must be properly permitted to do so by the appropriate government agency associated with the area of collection (i.e. Oregon Department of Fish and Wildlife collection permit).

The quality of any wild collected specimens may vary greatly in how carefully they were collected, cared for, and transported. Some sources may consistently provide specimens that have high levels of pre-existing infectious disease and/or trauma. These suppliers should be avoided where possible. Most likely all newly acquired animals are likely to have at least a degree of these factors pre-disposing to disease. For this reason, newly acquired wild collected animals should be quarantined for a suitable period of time prior to introduction into established systems.

Donations

The donation of animals from students, hobbyists or any third party must adhere to the guidelines of the animal policies written herein. Animal donations will not be accepted without the expressed authorization from the AQS Director. Once the animal is donated and accepted into the AQS Facility it becomes the sole property of the college. The college then has full authorization and responsibility to care for and, if needed, relocate the animal. The disposition of such animals must only be done so in accordance to the disposition policy below and any associated protocols established by the college. Newly acquired donated animals should be quarantined for a suitable period of time prior to introduction to established systems.

6.2.3 Animal Dispositions

It is the goal of the Animal Disposition Policy to ensure that the disposition of animals from OCCC to other facilities or locations is carried out in support of the organization's educational function, institutional goals, and established collection plan therein while at the same time ensuring the long-term health and welfare of animal(s) dispositioned and minimizing the loss of animals to the facility.

Disposition is the process by which animals are formally removed from the facility's permanent animal collection records. Once an animal has been dispositioned from the animal collection it is physically removed from the facility and is therefore no longer part of the collection plan. Dispositions may be categorized as "live animal dispositions" or "mortalities".

Live animal dispositions are those in which animal(s) are purposefully removed from the collection in support of another facility's collection plan. The planned disposition of live animals from the animal collection at OCCC must be done so in support of the facility's education/conservation function, institutional goals and collection plan therein, while following the established Animal Disposition Protocol.

Mortalities are dispositions in which animals are terminated by means of planned euthanasia or spontaneously lost to natural or unnatural causes. Handling of mortalities

should be done so in accordance with any associated animal health protocols and while following any established animal disposition protocols. Animals dispositioned as a result of prescribed euthanasia must be done so in accordance with the established Animal Euthanasia Policy.

Selection of Live Animal(s) for Disposition

The proper determination of an animal or animals for candidacy of disposition to a new facility is a vital step in a planned animal disposition process. Live animal dispositions must be authorized and approved by the proper authorities involved (i.e. program Director, veterinarians, senior AQS staff). Animals selected for disposition must generally fit the following criteria in order to be "good" candidates for disposition; 1) surplus animals from breeding/reproduction or from temporary or unplanned acquisitions 2) animals that are presenting unforeseen behavioral issues preventing them from being displayed in the environment provided by the facility 3) animals that no longer support the education/conservation function and collection plan of the facility. Animals should not be dispositioned to other facilities because of chronic or underlying health issues, such as communicable diseases or pathogens, so as not to compromise the receiving facility's collection.

Selection of Recipient for Live Animal Disposition

It is the goal of OCCC to always disposition animals to the most appropriate recipients while keeping the health and welfare of the animal(s) being dispositioned in mind. Selection of a proper animal recipient may often depend on the location, perceived need and reputation of the facility seeking or solicited to for receiving dispositioned animals. Recipients considered inappropriate for any reason in regards to use, care, handling or collection, should under no circumstances be utilized. Priority of dispositioned animal recipients should be considered first among reputable public aquarium facilities such as zoological organization within AZA accredited organizations, credible museums, academic institutions, and marine science research facilities. Animals should not be dispositioned to the pet trade, home hobby aquarists, or other organizations where they can be bought, re-sold or traded for any reason other than that which could be proven for the conservation, research and/or betterment of the species as a whole. Animals will not be dispositioned to recipients that will sell or trade the animals to any facility for the purpose of providing game for recreation, for use in stressful or terminal research programs or for eventual disposal at any animal auction. Animals must be dispositioned to facilities, which will house, feed and maintain the animals in a manner that will ensure their health and well-being. The disposition of animals as surplus to any recipient should be considered only on a case-by-case basis and approved by OCCC senior AQS personnel.

Under no circumstances shall any animal(s) be dispositioned into the wild without the authorization of OCCC senior AQS staff and unless properly permitted to do so, following all rules and guidelines of local, regional, national and international governing authorities and agencies associated with the area of release.

Animals raised by students for the purpose of projects supporting course and program activities are the sole property of college and cannot be removed for personal use. Personal donations become property of the college and cannot be removed without consent of the AQS Director. See "Donations" within the Animal Acquisition Policy above.

6.2.4 Euthanasia

Sometimes the best possible care requires euthanizing an animal in the collection. The mode of euthanasia will depend on the species and the size of the individual animal; the practice of euthanizing an animal will depend on the circumstances surrounding the individual case.

The following guidelines will be used to determine when euthanasia is necessary:

1. An animal is so severely injured as to render it unlikely to recover.
2. Successive medical treatments for a disease or condition have proven unsuccessful and the health of the animal continues to decline.
3. Medical interventions fail to reverse deterioration in an animal's condition and quality of life because it is near the end of its normal life cycle.
4. An animal does not thrive in captivity and releasing it back into its original habitat is not possible.
5. Natural reproduction of a particular species in captivity surpasses the carrying capacity of an exhibit or the ability of the aquarium to dispose of surplus individuals of that species.

No euthanasia shall be carried out without the expressed permission of the AQS Director or veterinarian except when a delay in administering euthanasia will mean significant additional suffering of an animal. **Notify the AQS Director of any euthanasia or need to euthanize as soon as possible.**

6.2.5 Animal Record Keeping

Students are expected to maintain all written records in association with animal husbandry in the AQS facility of which they have been notified or trained. Such records may include but are not limited to; system husbandry and maintenance logs, animal mortality and transfer logs, water quality logs and associated records, inventory logs and daily checklists.

6.2.6 Bio-Security

Bio-security is defined as the containment principles, technologies and practices that are implemented to prevent unintentional exposure to pathogens and toxins, or their accidental release. AQS students are required to follow established bio-security protocols and procedures, as set by AQS personnel, to prevent cross contamination of live aquarium systems and infection from zoonotic diseases. Students will learn these

protocols and procedures from AQS personnel during their time in the program. Examples of protocols to be followed include use of personal protection equipment (PPE's; refer to safety policies), use of disinfection procedures, use of footbaths, use of designated equipment or equipment that has been properly disinfected, etc.

Aquarium maintenance and associated husbandry equipment (basically anything that comes in contact with established aquarium system water) should never come in contact with items, organisms or water from other systems. All husbandry maintenance equipment should be stored in its proper designated location (in containers or hangers) and never come in contact with the floor or other potential contaminated surfaces, not even temporarily. All equipment in contact with system water and/or organisms should always be cleaned, disinfected and rinsed before storage and future use.

6.2.7 IACUC

The Institutional Animal Care and Use Committee (IACUC) is a self-regulated committee that, in accordance with U.S. federal law, must be established by any institution handling or caring for laboratory animals in a research or instructional capacity. The IACUC monitors and evaluates all aspects of the institution's animal care and use program. Any student research projects or class assignments involving or requiring the use of animals within the aquarium science program must be submitted to the AQS Director as a formal proposal, which in turn will be evaluated and approved by the IACUC committee.

6.3 Facility Safety Policies

6.3.1 General Safety

Safety is a must and should be top priority for all students using the AQS facility. Students are expected to follow all safety procedures and protocols associated with any and all AQS equipment and/or materials. Students should be aware of the locations of all safety related material, documentation and/or personal protective equipment (PPE). Specific protocols and procedures can be found in the AQS Facility Operations Manual or within the equipment manufacturers supplied user manual. No student should use Items of which they have not had prior training for use by AQS personnel or other proven (AQS Director approved) professional training. Any student who knowingly violates safety policies or procedures will be subject to disciplinary action leading up to dismissal.

6.3.2 Hazardous Chemical Use and Disposal

Numerous chemical materials in various forms are present in the AQS Facility for support of laboratory procedures, animal health protocols, aquarium maintenance, disinfection/bio-security, fabrication and construction, and general building maintenance and cleaning. OCCC will provide all AQS students with information and training on usage, handling and storage of chemical hazards and hazardous substances, as well as how to

control hazards to ensure compliance with the requirements for a written Hazardous Communication Plan under the Occupational Safety & Health Administration (OSHA) standard 29 CFR 1910.1200. College management is expected to take immediate action to stop any activity or process that would be potentially hazardous or cause imminent danger to an employee or student at OCCC.

AQS personnel are responsible for maintaining a safe workplace and for properly instructing each student in the safe use of chemical products used in their work in both the classroom and the facility. AQS personnel are responsible for ensuring that lists of chemical products used in the work area, known and established information on the potential hazards of chemical products, and chemical control measures are made available to students. When new chemicals are introduced into the facility, AQS personnel will ensure proper guidelines are in place. AQS personnel are responsible for identifying and controlling hazardous materials within their specific locations, and the college facility department is responsible for cleaning up all hazardous spills and leaks in the facility. Each container in the facility is required to be labeled properly. The label will include the identity of the chemical product in the container and appropriate hazard warning.

Students are required to be familiar with Material Safety Data Sheets (SDS, see below) for hazardous materials used in the work place. Providing labels on containers, SDS and training are part of a comprehensive Hazardous Communications Plan for all students who are potentially exposed to chemical products. Each student is responsible of notifying college personnel when a chemical spill or leak occurs and the college facilities department will notify the proper agencies if necessary. Each student should try and stay upwind from any type of chemical spill or leak until it can be contained and removed.

6.3.3 Safety Data Sheets (SDS)

SDS are provided for the chemical products and the approved applications of that product. SDS is the means for conveying information to students about the hazards of the chemicals that are used on the premises. SDS provides data on how to use, handle, and store chemicals safely; including precautions to be taken and first aid treatment if an exposure occurs. Master copies of SDS for all hazardous substances to which students of the college may be exposed are kept in a binder in the main hallway of the facility. SDS are available to all students for review. If SDS are not available, or new hazardous substance(s) in use does not have SDS, the student should contact AQS personnel or the AQS Director immediately. Whenever a new or revised SDS is received and indicates significantly increased health risks or additional protective methods, the information will be provided to the student upon receipt.

AQS personnel will review incoming SDS sheets for new and significant health and safety information. Upon viewing, he/she will see that all affected students are trained on any new information. The AQS Director and/or the Facilities Director will review SDS periodically for completeness. If an SDS is missing or obviously incomplete, a new SDS

will be requested from the manufacturer. If the SDS does not accompany the product, then the product shall not be used.

6.3.4 Personal Protective Equipment (PPE)

There are many ways a chemical can enter the body and Personal Protective Equipment (PPE) acts as a barrier to these routes of entry, blocking off access of these chemicals to human tissues.

These routes of entry are via:

- the mouth, nose and lungs by inhalation
- through the skin and eyes by absorption
- through the membranes in the eyes
- through the stomach and intestines by ingestion

The specific equipment required to protect an individual varies depending on the exact nature and type of chemical in question, the process in which this chemical is used, the exposure to the individual during a specific operation, and also the specific biological makeup of the person being exposed as not everybody reacts alike when it comes to chemicals. There are methods by which you can protect yourself through the use of personal protective equipment. Consult the SDS to know which PPE's should be used during the handling of specific chemicals. Personal protective equipment can be found in the AQS facility in the student workshop, teaching lab and water quality lab. If personal protective equipment is not available in the designated areas of the facility consult AQS personnel or a representative from the college Safety Committee.

Chemical Fume Hood

Chemical fume hoods are located in the teaching and water quality labs. The chemical fume hood is appropriate for storing labeled chemicals and for working with chemicals to prevent the inhalation of chemical fumes. Consult the SDS to know if you should be handling a chemical under a fume hood. Be sure to turn the chemical fume hood on when working with a chemical substance.

Gloves and Aprons

Gloves and aprons (or gowns) provide a barrier to skin absorption. Depending on the specific hazards in your department, a variety of these items may be necessary to provide the proper level of protection. Students should consult AQS personnel or a college Safety Committee Representative for specific recommendations or if you have any questions.

Safety Glasses

Mandatory eye protection is required in all work areas while using chemicals and/or operating machinery or power tools.

Labeling

Always label any container to prevent accidental drinking. Some foods and drink can absorb chemicals from the air to be ingested later, therefore keep any food or drinks away from work areas and always thoroughly wash your hands with soap and water before eating, drinking or smoking after the use of chemicals.

Hearing Protection

Hearing protection must be worn in and around areas with excessive noise. Anything that you can do to separate your work environment from your own personal protection, and skin protection means good protection. Protect yourself and protect your health. Hearing protection is available in the facility within the PPE cabinet in the workshop or directly from AQS personnel.

Respirators

Respirators are a barrier to chemicals that can be inhaled. Respirators either filter particles out of the air, react with chemicals in the air to neutralize them or provide fresh air from a source separate from the work area.

There are two important things to remember about using respirators:

1. A Respirator only works when you use it and use it properly. They will not work if you do not use them.
2. The proper respirator and filters for a specific hazard must be used. Respirators designed for one type of chemical will not work for another; a respirator designed for dust will not protect against paint vapors. If there is a question about the proper type of respirator to use, contact AQS personnel. No one is allowed to use any respirator without respirator training.

6.3.5 First Aid

The AQS program recommends that all students receive First Aid/CPR training prior to or soon after starting the program. First Aid/CPR training can be made available by the college. Contact the AQS Director for more information.

Students should not administer First Aid to anyone without the proper training. All injuries and/or illnesses that occur in the AQS facility should be reported immediately to college personnel and/or the AQS Director. Students should notify college personnel immediately and/or call emergency services (911) for any serious injuries or illnesses requiring immediate medical assistance. First aid kits are in the following locations within the AQS facility: teaching lab, food prep lab, student workshop, animal holding lab. If any items are missing from a First Aid kit, students should notify AQS personnel.

6.3.6 Sharps Use and Handling

All needles, knives, blades, nails, box cutters, broken glass, etc. should be disposed of only in red dispenser marked as “SHARPS DISPOSAL”. These containers are located in the water quality lab, teaching lab and animal holding room in the AQS facility. Any broken glass

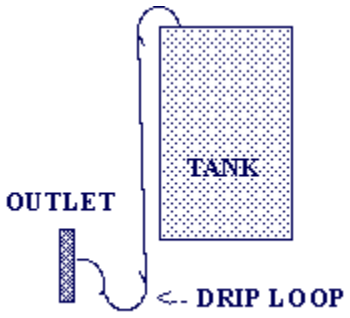
should be cleaned up with a dustpan and broom and disposed in appropriate/designated sharps location.

6.3.7 Knife Handling

Students will occasionally use knives in the food preparation lab. When using a knife, students should always wear safety gloves, use a cutting board with a damp towel beneath for stability, and use the correct and sharpest knife. Students should remain focused on their work while handling a knife with a firm grip, and always warn fellow students/personnel when walking near them with a knife. All knives should be washed and stored safely when not in use.

6.3.8 Electricity

Water and Electricity don't mix! The combination of water and electricity can cause serious injuries including death. Frayed wires, broken light fixtures, and cracked heaters can all present an electrical hazard. Make sure all cords are grounded, and use 'drip loops' to avoid letting dripping water run into an electrical outlet. A drip loop is formed when the cord is allowed to hang down in a loop below the outlet, so the plug is above a section of the cord. Maintain **drip loop**s on all cords used for display tanks to prevent electrocution and fire danger. If the cord is too short to form a drip loop, use an extension cord to create enough length to form a drip loop.



Extension cords should never be "daisy-chained" or linked with multiple extension cords from one power source. If a power cord is not long enough it should not be used. The AQS Director should approve all extension cord installations. Extension cords should only be used in temporary applications (1 to 2) days and should not supply continuous power for permanent installations. If a permanent source of power is required in lieu of an extension cord consult the AQS Director. Power strips should only be plugged into main power source receptacles or outlets and never at the end of an extension cord. Never unplug power cords with wet hands. Students should avoid installing power cords, receptacles, plugs, etc., below the surface or in close proximity to an open source of water, water vessel or tank, and/or faucet or supply valves or any area with a direct potential for leaks or spills and students should always secure loose power cords to a fixed structure using zip ties, electrical tape, tie-downs, etc. Cords should not be tangled, resting in water or on the floor, set against hot objects.

Students should always be observant of their surroundings. Any dangerous electrical situations (frayed cords, exposed wires, broken outlets or power boxes) should be reported to AQS personnel immediately. Students are not allowed to perform any hard or direct wiring for any equipment – only by a certified electrician. All objects should be kept clear of power circuit/electrical panels. These should be marked at a 3ft radius on the floor with a red line. Do not place or store objects within this line/boundary. Students should report any electrical shock/charge near or in water and/or any sparks or smoke witnessed in association with any electrical equipment or fixture immediately to AQS personnel.

6.3.9 Tool Use

AQS Students will be required to use both hand and power tools during their time in the program. When using any tool, students must practice and follow proper safety guidelines for that tool.

Specific protocols and procedures for machines and power tools in the workshop can be found in the AQS Facility Operations Manual or within the equipment manufacturers supplied user manual. Students must also use PPE appropriate for any tool used in the facility. Students must have proper training or authorization before using tools, or be accompanied by designated AQS personnel. Any student who knowingly violates safety policies or procedures will be subject to disciplinary action leading up to dismissal.

Hand tools must be selected and handled for the proper size for the required operation to be performed. All cutting tools must be used such that the cutting edge is away from all body parts. Power tools and machines must be maintained at full operational standards set by the manufacturer. As with cutting tools, all powered tools should be used so that the movable tool parts are facing away from any body parts at all times including when they are stopped. Students must keep all tools and machines clean before and after use. During the use of machines, students must always wear eye protection, give the machine their full attention, and never talk to a person while he/she is operating the machine. The following safety tips should be followed when using power tools:

- Never carry a tool by the cord
- Never yank the cord to disconnect it from the receptacle
- Keep cords away from heat, oil, water and sharp edges
- Disconnect tools when not in use, before servicing and when changing accessories such as blades, bit, etc.
- Do not hold fingers on the power switch while carrying a plugged-in or battery charged tool
- Wear appropriate safety wear (PPE) when using power tools
- Store power tools in a dry place when not in use

- Do not use electric tools in damp or wet locations unless approved for that purpose by AQS personnel
- Ensure cords do not present a tripping hazard
- Keep work area well lighted when operating power tools
- Remove all damaged portable electric tools from use and tag them: “Do Not Use.”
- Use double-insulated tools

6.3.10 Restricted Work Situations

Any student working on ladders/platforms at heights over 3 ft, must be accompanied by another student or AQS personnel. Also, students should not work in confined spaces (large tanks, vessels, containers, etc.) without being accompanied by another student or AQS personnel. These restrictions are in place for each student’s safety. Any student who knowingly violates safety policies or procedures will be subject to disciplinary action leading up to dismissal.

6.3.11 Emergency Protocol

In case of a fire or natural disaster, all AQS students should be aware of the building evacuation routes and plan posted in the AQS facility. Students should also note the locations of fire extinguishers and fire alarms. In the case of a fire, students should notify college personnel and/or call emergency services (911).