Course Content and Outcome Guide for AQS 216

Course Number: AQS 216
Course Title: Elasmobranch Husbandry
Credit Hours: 2
Lecture Hours: 20
Lecture/Lab Hours: 0
Lab Hours: 0

Course Description
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.

Intended Outcomes for Course
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.

Course Activities and Design
The format for this course is a combination of lecture, demonstration, and project experience to provide necessary skills in how to properly care for elasmobranch species in a captive controlled environment. Instruction will be based at the OCCC Central Campus and will include guest lectures from industry professionals and field trips to local and regional public aquarium/zoo facilities.

Outcome Assessment Strategies
- Participation in classroom activities and discussions.
- Written paper(s) on select elasmobranch species husbandry utilizing information resources and lecture based content delivered.
- Knowledge assessment through scheduled interactions with industry professionals.
- Scheduled quizzes and examinations to evaluate knowledge of standard industry criteria for the identification, health management, handling and long term success of keeping elasmobranchs in a captive environment.

Course Content (Themes, Concepts, Issues and Skills)

Themes
- History and current status of elasmobranch species kept in controlled environments.

- Commonly kept elasmobranchs in aquariums.
- Anatomy and physiology of elasmobranchs.
- Conservation, research and educational value of elasmobranchs in aquarium collections.
- Handling and transportation of elasmobranchs.
- Health management of elasmobranchs in captive controlled environments.
- Nutrition and growth of elasmobranchs in aquariums.
- Breeding and reproduction of elasmobranchs in captive environments.
- Behavior of elasmobranchs in aquariums.
- Unique and uncommon elasmobranch collections.

Concepts

- Evolution of elasmobranch husbandry over time to modern day techniques and associated technology.
- Survey and selection of commonly kept elasmobranchs based on compatibility, care requirements and conservation status.
- Identification of key anatomical characteristics in elasmobranchs and the relation to captive controlled environments.
- Exploration of impact of captive environments on elasmobranch behavior and physiology.
- Safe and effective application of tools and techniques in properly handling elasmobranchs during collection and transportation.
- Safe and effective application of tools and techniques in properly handling elasmobranchs during acclimation and introduction to aquarium environments.
- Safe and effective application of tools and techniques in properly handling and immobilizing elasmobranchs during routine physical examinations.
- Principles of quarantine, disease identification and treatment in managing the health of elasmobranchs in aquariums.
- Relationship of food selection, storage, handling, preparation and delivery in maintaining proper nutrition for elasmobranchs in controlled environments.
- Rationale of keeping elasmobranchs in aquariums and the role of education, conservation and research associated.
- Use of record keeping and data collection in managing elasmobranch collections in aquariums.
- Identification of reproductive strategies of elasmobranchs and their role in captive breeding programs.
- Exploration of learning behaviors of elasmobranchs and the role of enrichment to enhance and aid elasmobranch husbandry.
- Safe and effective techniques used when diving with elasmobranchs in aquariums.
- Considerations for the design and implementation of facilities, exhibitions and enclosures used for elasmobranch collections.
- Survey of unique and uncommon elasmobranchs kept in aquariums and the challenge of future collections.

Issues

- Management of wild elasmobranch species in a captive environment.
- Diversity of elasmobranch species and requirements for husbandry.
- Regulations and permits for obtaining and caring for elasmobranchs.
- Compatibility of aquarium inhabitants.
- Conservation status and ethics of keeping elasmobranchs in aquariums.
- Safe practices when handling and caring for elasmobranchs.

Skills

- Evaluate a safe environment and behaviors associated with handling and caring for sharks, skates and rays.
- Identify and apply nomenclature of elasmobranchs commonly kept in aquariums.
- Properly select and determine compatibility of elasmobranchs for aquarium collections.
- Determine proper food rations for elasmobranchs in aquariums.
- Identify nutritional requirements and food storage, preparation and delivery techniques for elasmobranchs in aquariums.
- Identify common diseases and treatments for managing the health of elasmobranchs in aquariums.
- Determine proper collection, transport and acclimation tools and techniques for elasmobranchs to aquarium systems.
- Identify common standards, considerations and requirements for aquarium systems holding elasmobranchs.
- Administer techniques for the immobilization of elasmobranchs.
- Identify reproductive strategies and breeding requirements of elasmobranchs in aquariums.
- Evaluate record keeping and data collection for elasmobranchs in captive environments.
- Identify behavioral enrichment techniques and programs for elasmobranchs in aquarium collections.