### Educational Categories

**Content and Comprehension:**
Students will demonstrate understanding of fundamental biological knowledge and concepts. In particular students will:

- **Describe** current systems of invertebrate classification and discuss strengths and weaknesses of them
- **List** newly discovered invertebrate phyla and **describe** their probable relationships, based on molecular and developmental evidence
- **Explain** invertebrate phylogeny in an evolutionary context, recognizing and illustrating how embryonic development, larval type, segmentation, and other factors support this view
- **State** major attributes of invertebrate phyla and classes
- **Identify** and **describe** local representatives of marine and estuarine invertebrates
- **List** and **describe** larval types and life histories of common invertebrates
- **Explain** and **describe** salient examples of invertebrates that are models for education and/or research (e.g., for medicine, neurobiology, immunology, behavior, etc.) with emphasis on HMSC and OCA-related activities

**Knowledge & Comprehension:**
Undergraduate students will demonstrate (1) understanding and mastery of subject content and (2) translate knowledge into new contexts. These skills will be assessed by having students:

- **Define** terms,
- **Identify** organisms,
- **Label** diagrams,
- **Explain** and **identify** invertebrates they have never previously seen, etc.

Assessment will be based on: lecture exam (specimen-based practical), laboratory quizzes (written), laboratory assignments (identifications, exercises and notebook).

**Technical Skills and Application:**
Students will demonstrate technical skills in capturing, reproducing, and documenting species’ identities and key biological concepts. In particular students will:

- **Capture** and **edit** digital images of invertebrates, using computer technology. This will involve whole-animal and close-up documentation.
- **Document** key attributes of specimens (e.g., structure of snail teeth, stinging cells inside anemones tentacles, algal symbionts inside of host tissue), using drawings and computer-based digital imagery.
- **Search** for biological information using library sources, including computer technology.

**Skills and Application:**
Undergraduate students will demonstrate the skills by producing two major products:

- Project on selected invertebrate topic which will involve students to **identify** species, **illustrate** key attributes, **label** biologically relevant structures, **highlight** and **discuss** crucial taxonomic features (e.g., gill type, tooth shape, etc.).
- Laboratory notebook in which each student will **document** and **record** all species observed as well as **describing** and **explaining** all demonstrations.

**Interpersonal Skills:**
Students will **work** collaboratively and responsibly with others.

**Skills and Application:**
Undergraduate students will demonstrate interpersonal skills by working with class members. Students will:

- **Collaborate** with team-mate in the identification of species by sharing dichotomous keys and microscopes.
- **Create** and **design** group computer project; **negotiate** and **revise** project until they reach group consensus.
- **Interact**, **assist**, and **facilitate** class mates during field trips.