

## **STAFF DEVELOPMENT COMPONENT INFORMATION**

**COMPONENT TITLE:** Florida Master Naturalist Program: Coastal Systems of Florida

**IDENTIFIER NUMBER:** 2015006

**MAXIMUM POINTS:** 35

### **GENERAL OBJECTIVE:**

Participants will demonstrate increased content knowledge in biology, and environmental science instruction. This will include knowledge of Florida's coastal systems, of the plants and animals that depend upon those systems, and the role of humankind in shaping our past, of determining our future, and as stewards of the land. The participants will demonstrate competency in the use of provided materials in instructional applications in the classroom including but not limited to field experiences and reading in the subject area with all students grades K-12.

### **SPECIFIC OBJECTIVES:**

Within the duration of this component participants will:

1. Demonstrate an understanding of coastal ecology including:
  - a. Ecosystems and ecological scale
  - b. Florida's geologic history
  - c. Major sea currents and tides
  - d. The climate, and hydrology of Florida
  - e. Water management and coastal resources
  - f. Population and community ecology
  - g. Trophic structure and nutrient cycling
  - h. Economic value of coastal communities
  - i. Threats to coastal communities
  - j. Conservation, management and restoration within coastal environments
2. Demonstrate an understanding of marine and estuary habitats including:
  - a. Pelagic and benthic habitats, including mud flats, seagrasses, mangroves, and reef communities
  - b. Representative plant species and their role in marine and estuary habitats
  - c. Conservation and interpretation of marine and estuary habitats
3. Demonstrate an understanding of coastal uplands including:
  - a. Beach and fore dune communities
  - b. Transition zone between dunes and maritime forests
  - c. Maritime forest habitat
  - d. Representative plant species and their role in the ecology of coastal uplands
  - e. Conservation and interpretation of coastal uplands
4. Demonstrate an understanding of invertebrate species found in coastal habitats including:
  - a. Cnidarians, Urochordates (tunicates), Sponges, Annelid worms, Mollusks
  - b. Adaptations and ecological function of representative species
  - c. Conservation and interpretation of marine invertebrates

5. Demonstrate an understanding of vertebrate species found in coastal habitats including:
  - a. Reptiles and amphibians
  - b. Diversity and ecology of fish
  - c. Diversity and ecology of water birds
  - d. Diversity and ecology of mammals (both marine and coastal mammals)
  - e. Conservation and interpretation of representative vertebrate species
6. Demonstrate an understanding of interpretation within coastal systems including:
  - a. Concepts and components of interpretation.
  - b. Communicating with your audience.
  - c. Developing a theme and structure for interpretive programs
  - d. Spoken presentations, guided tours, and spontaneous information.
  - e. Working with children.
7. Demonstrate an understanding of ethical issues in coastal systems including:
  - a. Philosophy and general components of environmental ethics
  - b. Tips for protecting resources through planning
  - c. Specific issues related to coastal uplands
  - d. Specific issues related to marine and estuarine environments
  - e. Individual lifestyles and management of natural resources

## **DELIVERY PROCEDURES**

Participants will:

1. Attend in-service presentations on the Coastal Systems of Florida.
2. Observe demonstration lessons taught by in-service provider which highlights strategies presented in the workshops.
3. Complete a final project as required by the Florida Master Naturalist Program.
4. Develop and implement plans for a classroom lesson applying strategies presented in the in-service presentations. This can be part of the final project.
5. Participate in follow-up activities.

## **EVALUATION PROCEDURES:**

Participants will:

1. Demonstrate a minimum of 80% of the component objectives as measured by pre- and post-tests or other valid measures.
2. Demonstrate increased competence as indicated by valid measures of performance as required in Florida Statute 231.508 (1) on eighty (80) percent of the specific objectives of a component that is used for certification.
3. Develop a lesson and create relevant materials to demonstrate an understanding of Florida's coastal systems.
4. Teach a lesson incorporating the coastal systems of Florida. Submit a copy of the lesson plan to document the incorporation of the strategies.
5. Submit written documentation of required hours for the component and complete a component evaluation.

**FOLLOW-UP PROCEDURES:**

1. Collect data affirming that activities/implementation have impacted instruction and increased student achievement
2. Provide written/oral reflections
3. Analyze student performance data
4. Share ideas, research, lesson plans and/or best practices
5. Provide and share feedback regarding implementation of activities

**COMPONENT EVALUATION:**

All participating teachers will assess the degree to which the seminar lectures, activities and classroom modules addressed the specific objectives and will make recommendations for revisions through the component evaluation.