

**ECOLOGY OF SOUTH FLORIDA**  
**EVR 3013/5061 Summer A 2008**  
**Fully Online**

**Instructor:** Dr. Jim Riach

**Course Description:**

The course introduces the student to ecological principles and to the South Florida environment. Students will learn to apply the ecological principles to explain the processes that have influenced the existence of plants and animals within South Florida from ancient to present times. The main biological and physical features of South Florida as a whole and which distinguish its diverse environments will be described and explained. The course will analyze how humans have used and impacted the different environments of South Florida since the times of their earliest occupation of the region. Students will participate in discussions of current debates of environmental issues concerning the South Florida ecology.

After successfully completing this course, the students will be able to:

- Define, apply, and use ecological principles to explain processes that affect the distribution and abundance of plants and animals in South Florida;
- Identify the main biological and physical features of South Florida and its diverse environments;
- Explain how different environments within South Florida were formed and are changing due to natural and human-driven processes;
- Explain ongoing debates of environmental issues affecting South Florida;
- Determine if and how various economic and recreational human activities may be affecting the ecology and/or wildlife of South Florida; and
- Describe and analyze different views regarding how best to protect and/or restore the South Florida environment.

**Textbooks:**

Lodge, T.E.

2004 The Everglades Handbook: Understanding the Ecosystem. 2<sup>nd</sup> Edition. Delray Beach: St. Lucie Press.

Callenbach, Ernest

1998 Ecology: A Pocket Guide. Berkeley: University of California Press.

**Recommended:**

Alden, P. *et al.* (Editors)

1998 National Audubon Society Field Guide to Florida. New York: Alfred A. Knopf Inc.

**Grading:**

Quizzes: each = 3.3% all six = 20%

Exam I: 30%

Exam II: 30%

Discussion 1: 10%

Discussion 2: 10%

**Quizzes and Exams**

A total of 6 short review quizzes based on lecture, the textbook readings, and online content will be given. All quizzes and exams on CE 6 and are open-book, but keeping up with the class material is crucial to good scores. Students will have 2 weeks to take the quiz and one week to take the exams. Students will have 30 minutes to complete the quizzes. Students will be allowed 2 attempts to take the quiz, with only the highest score counting towards the final grade.

**Discussion:**

Students will discuss on the CE 6 discussion forum, 2 sets of articles that will be submitted by the professor to the discussion forum. The discussions must include comments on the article AND to each other's comments in the form of group discussions. Participation in the group discussions will be monitored and students will receive a grade for their participation at the end of the semester based on the quality, quantity, and originality of the content of their responses. Given the public forum of these discussions, please make sure to observe proper net etiquette and be respectful of others. **Do not post your response in an attached file**, instead respond to what other people have posted.

**SCHEDULE**

<b>QUIZZES</b>	<b>EXAMS</b>	<b>DISCUSSIONS</b>
1: 5/5 - 5/18 due by 11:55PM 2: 5/12 – 5/25 due by 11:55PM 3: 5/19 – 6/1 due by 11:55PM 4: 5/26 – 6/8 due by 11:55PM 5: 6/2 - 6/15, due by 11:55 PM 6: 6/9 - 6/19, due by 11:55 PM	1: 5/26 – 6/1 due by 11:55PM 2: 6/9 - 6/19, due by 11:55 PM	1: 5/12 - 5/25 due by 11:55PM 2: 6/2 - 6/8 due by 11:55PM

**Week 1: 5/5 - 5/11****1. Introduction and Basic Ecological Concepts**

- Post introductions on discussion forum
- **Textbook Readings:**
  - Callenbach: ecology, biodiversity
- **Corresponding CE 6 content:**  
Ecoconcepts and Principles: Part I

**2. South Florida Geological History and Prehistoric Biota**

- **Textbook Readings:**
  - Lodge: Chapter 1
  - Callenbach: evolution, succession
- **Corresponding CE 6 content:**
  - Geoworld
  - Prehistoric Biota
  - Prehistory
  - Geochart

**3. Physiographic Regions, Ecosystem Overview, and Historical Everglades**

- **Textbook Readings:**
  - Lodge: Chapter 2
  - Callenbach; bioregion, community, ecosystem
- **Corresponding CE 6 content:**
  - Physiographic Regions 1-4
  - Climate
  - South Florida Ecosystems

**4. Key Ecological Concepts and Principles: Ecosystems, Organisms and Communities**

- **Textbook Readings:**
  - Callenbach: habitat, population, species, food web, interdependence, niche, predation, symbiosis
- **Corresponding CE 6 content:**  
Ecoconcepts: Part II

## Week 2: 5/12 - 5/18

### 5. Hammocks

- **Textbook Readings:**
  - Lodge: Chapter 5
- **Corresponding CE 6 content:**
  - Hammocks
  - Hammock species list

### 6. Pine Rocklands and Flatwoods

- **Textbook Readings:**
  - Lodge: Chapter 6
  - Callenbach: fire
- **Corresponding CE 6 content:**
  - Pine rockland
  - Pine flatwood
  - Pine rockland species list
  - Pine flatwood species list

### 7. Marshes and Wet Prairies

- **Textbook Readings:**
  - Lodge: Chapter 3
- **Corresponding CE 6 content:**
  - Marshes
  - Wet Prairies
  - Marshes species list

### 8. Tree Islands and Aquatic Marsh Ecosystems

- **Textbook Readings:**
  - Lodge: Chapter 4
- **Corresponding CE 6 content:**
  - Wetland Tree Islands
  - Aquatic Marsh Ecosystems

### Quiz 1 (Covers Week 1)

Available from 5/5 to 5/18; due by 11:55PM

## Week 3: 5/19- 5/25

### 9. Swamps

- **Textbook Readings:**
  - Lodge: Chapter 7
- **Corresponding CE 6 content:**
  - Swamps
  - Swamp species list

### 10. Big Cypress Swamp

- **Textbook Readings:**

Lodge: Chapter 7

### 11. Mangrove Swamps

- **Textbook Readings:**
  - Lodge: Chapter 8
- **Corresponding CE 6 content:**
  - Mangroves
  - Mangrove species list

### 12. Salt Marshes (and Hurricanes)

- **Textbook Readings :**
  - Lodge: Chapter 9
- **Corresponding CE 6 content:**
  - Salt marshes
  - Salt marsh species list

### 13. Estuaries

- **Textbook Readings:**
  - Lodge: Chapter 10
- **Corresponding CE 6 content:**
  - Estuaries
  - Estuary species list

#### Quiz 2 (Covers Week 2)

Available from 5/12 to 5/25; due by 11:55PM

#### Discussion 1

Available from 5/12 to 5/25; due by 11:55PM

### Week 4: 5/26 - 6/1

#### 14. Origins of Flora and Fauna

- **Textbook Readings:**
  - Lodge: Chapter 12
- **Corresponding CE 6 content:**
  - Biogeography
  - Biota list

#### 15. South Florida Invertebrates

- **Textbook Readings:**
  - Lodge: Chapter 13
- **Corresponding CE 6 content:**
  - Invertebrates

#### Exam I

Available from 5/26 to 6/1; due by 11:55PM

#### Quiz 3 (Covers Week 3)

Available from 5/19 to 6/1; due by 11:55PM

### Week 5: 6/2 - 6/08

#### 16. South Florida Fishes

- **Textbook Readings:**
  - Lodge: Chapter 14 -15
- **Corresponding CE 6 content:**
  - Fish

#### 17. South Florida Amphibians and Reptiles

- **Textbook Readings:**
  - Lodge: Chapter 16 -17
- **Corresponding CE 6 content:**
  - Amphibians and Reptiles

#### 18. South Florida Mammals

- **Textbook Readings:**
  - Lodge: Chapter 18
- **Corresponding CE 6 content:**
  - Mammals

#### 19. South Florida Birds

- **Textbook Readings:**
  - Lodge: Chapter 19
- **Corresponding CE 6 content:**
  - Birds

#### Quiz 4 (Covers Week 4)

Available from 5/26 to 6/08; due by 11:55PM

#### Discussion 2

Available from 6/2 to 6/08; due by 11:55PM

## Week 6: 6/09 - 6/15

### 20. Humans and the Everglades Part 1

- **Textbook Readings:**
  - Lodge: Chapter 21 pp. 217-233
  - Callenbach: carrying capacity, conservation, extinction, impacts, land use, pollution, water
- **Corresponding CE 6 content:**
  - Archaeology
  - Environmental History – FIU Everglades network
  - Hydrology
  - Anthropogenic environment
  - Anthropogenic species list

### 21. Humans and the Everglades Part 2

- **Textbook Readings:**
  - Lodge: Chapter 21 pp. 233-254
  - Callenbach: restoration, sustainability, toxics, urban ecology, values, xeriscape, zoos
- **Corresponding CE 6 content:**
  - FIU Everglades Network

**Quiz 5** (Covers Week 5)

Available from 6/02 to 6/15; due by 11:55PM

## Week 7: 6/16 - 6/19

**Quiz 6** (Covers Week 6)

Available from 6/09 to 6/19; due by 11:55PM

**Exam II**

Available from 6/13 to 6/19; due by 11:55 PM