

EVR 3013 - ECOLOGY OF SOUTH FLORIDA
Spring 2010 MWF 1-1:50 PM
ROOM: CP 151

Instructor: Jim Riach riachj@fiu.edu

Office hours: TuThu :11 AM-12 PM; Th: 2-4 PM; MW: 10 AM-12PM

Office: ECS 335

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.

CE6: This as a web-assisted course. All students will be assigned a CE6 account for online access to the course, which will contain review quizzes, online reading materials, lecture supplements, professor e-mail access, assignment submission tools, and suggested links.

Textbooks:

Lodge, T.E. 2004. *The Everglades Handbook: Understanding the Ecosystem*. 2nd 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:

| | |
|------------------------------------|-------------------------------|
| Exam I | 20 |
| Exam II | 20 |
| Exam III | 20 |
| Env Scavenger Hunt (4x) | 20 (four @ 5 pts each) |
| <u>In-Class Activities</u> | <u>20</u> |
| Total | 100 |
| Video Project (in place of 1 exam) | 20 (can replace 1 exam above) |
| CE 6 Review Quizzes | NONE |

Grades are based on the following percentages

A = 94-100

A- = 90-93

B+ = 87-89

B = 83-86

B- = 80-82

C+ = 77-79

C = 73-76

C- = 70-72

D+ = 67-69

D = 63-66

D- = 60-62

F = 0-59

Exams: There will be two non-cumulative exams during the semester. Exams will cover material from the readings and lecture. Lectures will not duplicate the material found in the readings, so class attendance is essential for a good grade in the exams. Several movies may be shown in class. Content from the movies may appear on the exams. If you miss class on a day a movie is shown, it is your responsibility to get notes from a classmate and/or try to see it.

Ecological Scavenger Hunt: Students will be required to participate in a total of 5 scavenger hunts throughout the semester. These hunts will require that students go to different areas around campus, complete an on-site assignment, and obtain information and artifacts from these locations. To receive a grade for the hunt, students will have to complete an online assessment for each of the scavenger hunts and may also be requested to bring to class the artifacts that they collected.

In-Class Activities: Several **GRADED** activities will take place during class time. These activities will be **UNANNOUNCED** and will be related to the content of that day's lecture topic or reading assignment (so have notes and readings with you in class). There are **NO MAKE-UPS** for these activities. Failure to participate in any activity will earn you a zero for that activity.

Optional Video Project

Students will be able to opt out of taking one exam in exchange for creating a 3-5 minute video addressing some of the issues covered in class. Further details will be discussed in class. There will be one in-class video project workday to help students organize their video projects. **Students working on videos will be required to attend the in-class video project workday.** Students who miss the workday will be required to take all three exams.

Review Quizzes: Short **non-graded**, quizzes based on lecture, the textbook readings, and online content will be posted on CE6. Students will have up to **3** attempts to take the quizzes as review for upcoming exams. Students will have 20 minutes to complete each attempt of the quizzes.

Extra Credit: FIU Environmental Preserve work days. Points will be added to the final grade for the semester according to the following guidelines. One full day = 5 points; Half-day = 2.5 points. Less than half day = 1.3 points. No more than 5 points will be given as extra credit for the semester.

Academic Misconduct

All students are expected to honor the following pledge

Pledge - As a student of this university:

- I will be honest in my academic endeavors.
- I will not represent someone else's work as my own.
- I will not cheat, nor will I aid in another's cheating.

All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.

Procedure

All matters relating to academic misconduct are referred to the Office of the Provost for Academic Affairs. Acts of academic misconduct may be alleged by faculty, staff or students. Two actions that may be taken are:

- **Expulsion:** Permanent separation of the student from the University, preventing readmission to the institution. This sanction shall be recorded on the student's transcript.
- **Suspension:** Temporary separation of the student from the University for a specific period of time.

SCHEDULE

I. BACKGROUND

Week One: January 4-8

1/4: Introduction and Basic Ecological Concepts

Textbook Readings: Callenbach: ecology, biodiversity
Corresponding CE6 content:
Ecological Concepts and Principles: Part I.doc

1/6-1/8: South Florida Geological History

Textbook Readings: Lodge: Chapter 1; Callenbach: evolution, succession
Corresponding CE6 content:
Geoworld
Prehistory
Geochart

Week Two: January 11-15

1/11-1/13: Prehistoric Biogeography

Textbook Readings:
Callenbach; bioregion, community, ecosystem
Prehistoric Biota

1/15: Physiographic Regions, Ecosystem Overview, and Historical Everglades

Textbook Readings: Lodge: Chapter 2; Callenbach: habitat, population, species, food web, interdependence, niche, predation, symbiosis
Corresponding CE6 content:
Ecoconcepts: Part II
Physiographic Regions 1-3
Climate
South Florida Ecosystems

Week Three: January 18-22

1/18: Martin Luther King Birthday Holiday - No Classes

1/20: Physiographic Regions, Ecosystem Overview, and Historical Everglades continued

1/22: Video Project Work Day

Ecological Scavenger Hunt #1 assigned: Due 1/29 @ 1 PM

II. SOUTH FLORIDA ENVIRONMENTS

Week 4: Jan 25-29

1/25: Upland Ecosystems (1)

Hammocks

Textbook Readings: Lodge: Chapter 5
Corresponding CE6 content:
Hammocks
Hammock species list

1/27: No class

1/29: Upland Ecosystems (1) Hammocks continued

Week 5: February 1-5

2/1-2/5: Upland Ecosystems (2)

Pine Rocklands and Flatwoods

Textbook Readings: Lodge: Chapter 6; Callenbach: fire
Corresponding CE6 content:
Pine rockland
Pine flatwood
Pine rockland species list
Pine flatwood species list

Week 6: February 8-12

2/8: EXAM I

2/10: Ecological Scavenger Hunt # 2 assigned: Due 2/17 @ 1 PM

2/10-2/12: Freshwater Wetland Ecosystems (1)

Marshes and Wet Prairies

Textbook Readings: Lodge: Chapter 3

Corresponding CE6 content:

Marshes

Wet Prairies

Marshes species list

Week 7: February 15-19

2/15: Freshwater Wetland Ecosystems (1) continued

Tree Islands and Aquatic Marsh Ecosystems

Textbook Readings: Lodge: Chapter 4

Corresponding CE6 content:

Wetland Tree Islands

Aquatic Marsh Ecosystems

2/17-2/19: Freshwater Wetland Ecosystems (2)

Swamps

Textbook Readings: Lodge: Chapter 7

Corresponding CE6 content:

Swamps

Swamp species list

Week 8: February 22-26

2/22: Ecological Scavenger Hunt #3 assigned: Due 3/1 @ 1 PM

2/22-2/26: Coastal Ecosystems

Mangrove Swamps

Textbook Readings: Lodge: Chapter 8

Corresponding CE6 content:

Mangroves

Mangrove species list

Salt Marshes (and Hurricanes)

Textbook Readings: Lodge: Chapter 9

Corresponding CE6 content:

Salt marshes

Salt marsh species list

Week 9: March 1-5

3/1: Video research, storyboard, video draft due

3/1-3/5: Intertidal and Marine Ecosystems

Estuaries

Textbook Readings: Lodge: Chapter 10

Corresponding CE6 content:

Estuaries

Reefs

III: SOUTH FLORIDA FLORA AND FAUNA

Week 10: March 8-12

3/8: South Florida Fishes

South Florida Fishes

Textbook Readings: Lodge: Chapters 14-15

Corresponding CE6 content:

Fish

3/10: South Florida Amphibians and Reptiles

South Florida Amphibians and Reptiles

Textbook Readings: Lodge: Chapters 16-17

Corresponding CE6 content:

Amphibians and Reptiles

3/12: EXAM II

Week 11: March 15 – 20 SPRING BREAK – NO CLASSES

Week 12: March 22-26

3/22: Ecological Scavenger Hunt #4 assigned: Due 3/29 @ 1 PM

3/22-3/26: South Florida Mammals and Birds

South Florida Mammals

Textbook Readings: Lodge: Chapter 18

Corresponding CE6 content:

Mammals

South Florida Birds

Textbook Readings: Lodge: Chapter 19

Corresponding CE6 content:

Birds

IV: HUMAN IMPACTS

Week 13: March 29-April 2

3/29: Final Video Projects Due

3/29-4/2: 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 CE6 content:

Archaeology

Environmental History – FIU Everglades network

Hydrology

Week 14: April 5-9

4/5-4/9: Humans and the Everglades Part 2

Textbook Readings: Lodge: Chapter 21 pp. 233-254; Callenbach: restoration, sustainability, toxics, urban ecology, values, xeriscape, zoos

Corresponding CE6 content:

FIU Everglades Network

Anthropogenic environment

Week 15: April 12-16

4/12: Video Presentations

4/14: EXAM II

4/16: Study Friday - No class