

EVR 5061 - ECOLOGY OF SOUTH FLORIDA
Fall 2009 TuTh 9:30-10:45 AM
ROOM: GL 100

Instructor: Jim Riach riachj@fiu.edu

Office hours: M/W: 1:00 - 3:00 PM; TR: 11AM - 1 PM

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 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.

Exam I	20%
Exam II	20%
Review Quizzes	NONE
Video Project	25%
Ecoquest Project	35%

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.

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. Review quizzes will NOT count towards your grade in class.

Video Project

Students will be required to create a 3-5 minute video addressing some of the issues covered in class. Students will work in groups of five to complete this project. Further details are provided in CE 6. There will be several in-class video project workdays to help students organize their group projects. **Students will be required to attend all in-class video project workdays. Students with two unexcused absences from the workdays will lose 5 points from the video project. Three unexcused absences results in 15 points deducted from the video project. More than three absences from the workdays results in student receiving a zero for the video project (that is a 25% reduction of the total points for the semester).**

Ecoquest Project

To fulfill the requirements of this class, all graduate students MUST complete one Ecoquest project as detailed in CE 6. All graduate students must see me within the first 2 weeks of class to discuss the ecoquest project and other issues related specifically to graduate students in class.

Attendance, Conduct and Other Policies:

Students are expected to arrive for class on time, remain for the duration of the class, keep cellular phones turned off (or on vibrate), and refrain from disruptive conversation during class time. Students who are discourteous or disruptive will be asked to leave the classroom, and may incur complete loss of credit for in-class activities.

Extra Credit:

Help with Video project. FIU Environmental Preserve work days

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

SCHEDULE

PART ONE: BACKGROUND

8/25: Introduction and Basic Ecological Concepts

Textbook Readings:

Callenbach: ecology, biodiversity

Corresponding CE6 content:

Ecological Concepts and Principles: Part I.doc

8/27: South Florida Geological History

Textbook Readings:

Lodge: Chapter 1

Callenbach: evolution, succession

Corresponding CE6 content:

Geoworld

Prehistory

Geochart

9/1: Prehistoric Biogeography

Textbook Readings:

Callenbach; bioregion, community, ecosystem

Prehistoric Biota

9/3 Physiographic Regions, Ecosystem Overview, and Historical Everglades

Complete survey #1 in CE 6 by 9/3

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

PART TWO: SOUTH FLORIDA ENVIRONMENTS

9/8-9/10: Upland Ecosystems (1)

Hammocks

Textbook Readings:

Lodge: Chapter 5

Corresponding CE6 content:

Hammocks

Hammock species list

9/15: Video Project Work Day 1

9/17-9/22: 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

9/24: Freshwater Wetland Ecosystems (1)

Marshes and Wet Prairies

Textbook Readings:

Lodge: Chapter 3

Corresponding CE6 content:

Marshes

Wet Prairies

Marshes species list

Tree Islands and Aquatic Marsh Ecosystems

Textbook Readings:

Lodge: Chapter 4

Corresponding CE6 content:

Wetland Tree Islands

Aquatic Marsh Ecosystems

9/29: Video Project Work Day 2 Proposal Due**10/1: Freshwater Wetland Ecosystems (1) continued****10/6-10/8: Freshwater Wetland Ecosystems (2)**

Swamps

Textbook Readings:

Lodge: Chapter 7

Corresponding CE6 content:

Swamps

Swamp species list

Big Cypress Swamp

Textbook Readings:

Lodge: Chapter 7

10/13: EXAM I**10/15: Video Work Day 3****10/20-10/22: 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

10/27-10/29: Intertidal and Marine Ecosystems**10/27: Video Draft Submitted**

Estuaries

Textbook Readings:

Lodge: Chapter 10

Corresponding CE6 content:

Estuaries

Reefs

PART THREE: SOUTH FLORIDA FLORA AND FAUNA

11/3: South Florida Fishes

South Florida Fishes

Textbook Readings:

Lodge: Chapters 14-15

Corresponding CE6 content:

Fish

11/5: Video Work Day

11/10: South Florida Amphibians and Reptiles

South Florida Amphibians and Reptiles

Textbook Readings:

Lodge: Chapters 16-17

Corresponding CE6 content:

Amphibians and Reptiles

11/12-11/17: 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

PART FOUR: HUMAN IMPACTS

11/19: 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

11/24: Humans and the Everglades Part 2

11/24: Final Video and Ecoquest Projects Due

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

12/1: Video Presentations

12/3: EXAM II