

Evolutionary Ecology - PCB 4673/5687 - Fall 2007

Lecture: Tuesday and Thursday 12:30 - 1:45 pm in PCA 135

[WebCT/CE6 link](#)

<u>Dr. Suzanne Koptur</u>
OE 232, ph. 305-348-3103
office hrs Wednesdays 9 am - noon (or by appt.)
<u>kopturs@fiu.edu</u>

Course description:

We will examine the adaptations organisms make to their environments (all levels, from the individual, through the population, to the community). Students will explore physiological and biological stresses and the subsequent adaptations of organisms under these forces. Life history strategies, breeding systems, and multitrophic interactions will be given special attention. A general background in ecology is assumed and knowledge of genetics will be reviewed (Prerequisite: PCB 3043, a general ecology class, or permission of instructor). Basic principles and foundations of the field will be considered as well as current research. Readings will come from a textbook (see syllabus that follows) and from books and articles from the older and current literature to expand the topics. Lectures will be interspersed with group and discussion activities to maximize student participation in the learning process.

Each student will write three (5-pg.) papers (library research, with original synthesis, on topics chosen by mutual consent of student and professor; and one may be a review of a classic book) during the semester, and participate in one or more group projects. There will be three exams during the semester and a final exam. Grades will be determined as follows: first three exams 10% each (30%), final exam 20%, each paper 10% (30%), project 10%, and class participation (in-class work and participating in discussions) 10%.

All students are expected to do original work. Plagiarism of any type will not be tolerated and will be basis for failing the course. If you are unsure of what plagiarism is, and how to correctly use and cite reference materials, please check out the links on our library web page (my favorite is from Canada: <http://library.acadiau.ca/tutorials/plagiarism/>). We will be using the services of "TurnItIn" to check the proper use of materials in papers written for this course, as well as to provide feedback and peer review.

Textbook: Rose, M.R. and L.D. Mueller. 2006. Evolution and Ecology of the Organism. Pearson Prentice Hall, Upper Saddle River, NJ. ISBN 0-13-010404-3.

Evolutionary Ecology Schedule of Events

Day/ date	Topic	Chapters
T / 28 August	Introduction to course	
R / 30 Aug	Ecology, Evolution, and Darwin	1
T / 4 Sep	Evolutionary Trees [paper topics introduced]	2
R / 6 Sep	Genes	3
T / 11 Sep	Natural Selection	4
R / 13 Sep*	Molecular Evolution	5
T / 18 Sep	Exam 1	
R / 20 Sep*	Speciation and Extinction	6
T / 25 Sep	Life History [First Paper Due]	7
R / 27 Sep*	Physical Ecology	8
T / 2 Oct	Amazing organisms [Group Projects assigned]	9
R / 4 Oct	Birth/death balance	10
T / 9 Oct	Group project work	
R / 11 Oct	Dispersal	11
T / 16 Oct	Exam 2	
R / 18 Oct	Competition	12
T / 23 Oct	Predation [Second Paper Due]	13
R / 25 Oct	Group project work	18
T / 30 Oct	Parasitism and Mutualism	14
R / 1 Nov	Student Presentations	
T / 6 Nov	Student Presentations	
R / 8 Nov	Evolutionary Conservation Biology	17
T / 13 Nov	Exam 3	
R / 15 Nov	Sex	18
T / 20 Nov	Mating Strategies [Third Paper Due]	19
R / 22 Nov	THANKSGIVING HOLIDAY	
T / 27 Nov	Social Evolution	20
R / 29 Nov	Human Evolution and Behavior	21
T / 4 Dec	Darwinian Medicine	22
R / 6 Dec	Last class - review	
T / 11 Dec	Final Exam 12:45 - 3 pm	