

Instructor: Dr. Rick Williams, Office: LS 436, Phone: 282-2948, email: willcha2@isu.edu

Office Hours: Tuesdays and Thursdays 11-12, or by appointment

Class Meets: Tuesdays and Thursdays 9:30-10:45, Plant Sciences 117 (PLSC LAB)

Primary Text: *Evolutionary Ecology: Concepts and Case Studies*. C.W. Fox, D. A. Roff, and D. J. Fairbairn (editors). Oxford University Press, 2001.

Supplemental Readings: from the primary literature or chapters from other texts will be made available on the course website:

(http://www.isu.edu/~willcha2/courses/b614f09/b614f09_menu.html)

when possible, or in a notebook outside my office (LS 436) for you to make photocopies.

Please do not remove these reprints from the building, or keep them for any longer than necessary to make your own copies.

Course Goals:

To gain an overview of the major theories and research themes in evolutionary ecology

To introduce you to some of the key papers in the field

To understand and be able to use quantitative methods of evolutionary analysis

To develop critical reasoning skills, and clearly express ideas orally and in writing

To help you develop a research question in evolutionary ecology and design a project

Course Structure: The course will be a combination of informal lectures and discussions. Each class period will focus on a topic and set of readings from the text and/or the primary literature. The course will be divided into two sections: 1) major concepts and themes, and 2) topical overviews. For the first few weeks I will present lectures over the major themes and methods of evolutionary ecology. Typically, I will give a lecture on Tuesday over the material from the text. On Thursdays we will continue to discuss supplemental papers on the topic. For these discussions I will assign a paper and provide a short list of questions to get the discussion started. Students should come prepared each week with 1-2 additional discussion questions over the readings. In addition, each student should do a literature search and find a recent paper on the topic. Each student will write a short (<1 page) synopsis of the paper and be prepared to summarize the paper and discuss how it relates to the topic of discussion that day.

For the second part of the course we will cover some of the major topics/questions in evolutionary ecology. Each class period I will present a short (20 min) overview of the topic and the remainder of the period will be spent discussing the appropriate text chapter and any supplementary papers. For each topic, a student will choose one or more appropriate readings (a current or classical paper on the topic), prepare discussion questions and lead the discussion. Discussion leaders should briefly (5 min) introduce the key paper(s) or case studies for discussion by the class (remaining 45 min). For discussions, leaders should come prepared to elicit participation from the group by identifying controversial issues or data, providing additional background, *etc.* All students should also come with 1-2 written questions over the topic/readings which may be used for discussion. Each student will act as discussion leader for two different topics during the semester.

There will be no exams *per se*, but rather you will be evaluated on a series of critical essays over topics I will assign during the semester, a final paper or proposal, oral presentation of your final project, class participation in discussions, preparation as a discussion leader, and reviews of peers' work. The essays will be take home assignments in which you will write a 3 page paper analyzing a controversial topic in evolutionary ecology. The final project will be a review paper or proposal over a topic/question in evolutionary ecology of your choosing. The research proposal will be in the style of an NSF dissertation improvement grant, or the paper should be in the style to be submitted to the commentary or review section of a professional journal.

Evaluation: Your course grade will be based on the following set of assignments and activities.

Class Participation (including literature summaries)	10%
Leading 2 Discussions (7.5% each)	15%
3 Short Essays (15% each)	45%
Final Paper or Proposal (including oral presentation)	20%
Review of Proposals or Papers	10%

I will use a standard grading scale of 90-100%=A, 80-89%=B, 70-79%=C, 60-69 %=D, <60%=F.

It is crucial for your success in this course that you do the readings before coming to class and are prepared to participate in discussions. Making a list of questions over the readings and providing 1-2 written questions each session will keep you on schedule and provide potential points for discussion. The course is also writing intensive and will give you the opportunity to respond to critical review and revise as appropriate to improve your grade.