

# **Species and Speciation**

## **Special Topics in Ecology and Evolution**

### **Lecturer**

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**BIOL 7010—Prerequisite: Acceptance into the graduate program in biology or permission of the instructor.** In-depth analysis of a current issue in ecology and evolution requiring student presentations and extensive background reading. The specific topic with ecology and evolution will change each time the course is offered. The course may be taken one additional time for credit with the permission of the instructor.

<b>Crn</b>	<b>Course Sec</b>	<b>Title</b>	<b>Day</b>	<b>Time</b>	<b>Location</b>
81139	BIOL 7010 A	Species & Speciation	M	6:00-7:50 pm	Biology 2202

### **Course Objectives**

- Develop a higher level of appreciation and understanding for the complexity of what is and is not a species.
- Develop an understanding of the evolutionary processes that are involved in speciation.
- Develop an appreciation for biological factors that control or delimit a species or in other cases fail to do so.
- Develop an appreciation for understanding the concept of a species as it relates to research.

### **Topics**

The following topics will not necessarily be discussed in the order below. Topics will include both plant and animal examples as well as discussion of principles and concepts involved in speciation.

- Species Concepts
- Speciation: Laws, Mechanisms and Processes
- Evolution and Reproductive Isolation
- Genomic Mechanisms of Incompatibility
- Unisexual Species—General
- Parthenogenic Species
- Gynogenic Species
- Unisexual—Bisexual Species
- Evolution and Phylogeography
- Species Complexes and Polyspecies

- Cryptic Species and Sibling Species
- Intraspecific Hybridization: Genetic Strains and Distinct Populations
- Interspecific Hybridization

## **Format**

Students will read primary/original literature on the above topics prior to coming to class. Each student will present summaries of specific assigned papers to include discussion of their relationships to previously read articles. After presentations, the class will engage in group discussions of the specific papers and topics assigned for each class period.

Active participation of all students is expected at each class session.

## **Examinations**

Semester tests will be primarily short to moderate length essays. The final will be essay and fill-in-the blank questions and will be comprehensive.

Tests will be given twice during the regular semester and announced at least one week in advance. The final is on 8 December 2010, 5-7 pm.

**Grading** is as follows:

$(\text{Test 1} \times 0.3) + (\text{Test 2} \times 0.3) + (\text{Final} \times .4) = \text{Final Grade}$

## **General Information**

**Disabled Students:** Students requiring classroom accommodations or modifications because of documented disabilities should discuss their needs with me at the beginning of the semester. Students requesting classroom accommodations or modifications because of a documented disability must contact the Access Office for Students with Disabilities located in room 1115 Nevins Hall. The phone numbers are 245-2498 (voice) and 219-1348 (tty).

Student Access Office web page: <http://www.valdosta.edu/access/index.shtml>

**Buckley Amendment or Privacy Act:** It is illegal to release to others personal information about an individual. Therefore, grades, averages, and other personal information about an individual will not be released to anyone but that individual, posted, sent by e-mail or given over the phone.

**Class Attendance and Behavior:** When I am lecturing, I expect students to behave themselves and maintain silence; however, your questions are encouraged. Students who repeatedly make noise and disrupt the class will be removed from the class and if necessary dropped from the course. You are now preparing for your future, and successful completion of this course may determine your future job prospects. Class

disruption is rude and inconsiderate of others who are trying to learn. Therefore, good behavior in class is expected, for you are now an adult and you should behave as such.

While class attendance is not formally taken each period, I will note when individuals are absent, and if absences are excessive I reserve the right to administratively drop a student from the course. It is your responsibility to attend class regularly, arrive on time and get the notes and assignments as presented in class.

Cell phone use in class is not permitted, and they must be turned off.

### **Important Dates Fall 2010**

- 3 September                      Labor Day. No classes
- 4 October                         Midterm. Last day to drop classes\*
- 15-16 October                  Fall break. No classes.
- 21-23 November                Thanksgiving.

\* No one will be dropped after the last drop date unless there are extenuating circumstances beyond your control.

### **Dr. David L. Bechler:**

Office: Room BC 2030.

Office: Phone: 293-6063

Generally, I will be available before class for consultation. Other times can be arranged by appointment or you can take your chances and just drop by to see if I am in the office. My teaching schedule is next to the door of my office. I frequently have meetings in the afternoon so this time period will not be a good time for you to try and see me. Please do not call me at home. As a field biologist, I spend certain amounts of time in the field collecting data. This fall I will often be in the field on Tuesday and Thursday. Once I leave the office and go home, my life belongs to my family (to include the 2 dogs and the cat) and me.