

General Ecology BIO340

(Section 001 – Lecture; Sections 001, 002, 003 & 004 – Lab)

Location: Lecture LDB 213; Lab LDB 115

Time: MWF 10:00-10:50am

Credit Hours: 4

Instructor: Dr. Chad Hargrave

Office: LDB 100B

Lab: LDB 102

Phone: office - 936-294-1543; cell - 405-326-3680

Email (preferred contact): cwhargrave@shsu.edu

Office Hours: M-W: 8:00-10:00am; or by appointment

BlackBoard and Email: I will communicate with the class using email via Blackboard (BB). Thus, I expect you to check your email regularly for information regarding the class. Missing an email announcement is not an excuse for missing an assignment. Moreover, I will post general information about assignments, tests, and labs on BB. It is your responsibility to obtain these documents.

Course Description and Objectives: Ecology lecture will introduce the major ecological principles, concepts, and classical hypotheses dominating the field of ecology. As an introductory general ecology course, students should leave with a thorough understanding of this scientific field, how ecologists conduct research, and the importance of general ecological knowledge. Moreover, this class will help develop critical thinking, oral and written communication, and give the students the tools necessary to link ecological patterns/processes to current human activities.

Prerequisite: Minimum grade of C in BIO 161/111, 162/112

Text: *Ecology – Concepts and applications*; Fourth Edition; Manuel C. Molles, Jr.

Attendance: Attendance in this class and laboratory is mandatory, expected, and often is directly correlated with a passing grade. If you want to understand and learn ecology, don't miss class or lab.

Absence and Make-up Policy: Any points for assignments, participation, or exams missed as a result of an absence cannot be made-up. The only exception is if the absence is planned and approved by the instructor at least 14 days prior to the date of absence. In this case an alternative assignment will be given and turned in before the absence.

Class Drop: 1 February 2008 – Last day to drop without a “Q”;
8 May 2007 – Last day to drop without a “F”.

Academic Dishonesty: I expect all students to maintain honesty and integrity in this class. Any student found guilty of dishonesty will be subject to disciplinary action. Academic dishonesty includes cheating on exams, copying others work, and pasting text directly from the internet (i.e., plagiarism), etc. For a complete listing of the university policy, see:

<http://www.shsu.edu/administrative/faculty/sectionb.html#dishonesty>

Students with Disabilities: Any student with a disability that prevents participation in any class activity or assignment should immediately contact the instructor so that arrangements can be made to ensure that participation and achievement opportunities are not impaired.

Visitors in the Classroom: Visitors (i.e., not registered students) attending the class must be approved by the instructor, and must not cause any disruption to registered students.

Audit: You must have the instructor's permission to audit this course, and auditing students must apply through the Registrar's office.

Lecture Tests (175 pts): There will be seven 25 point tests given every 2 weeks, beginning 1 February 2006. These short tests will vary in format, from multiple-choice, short answer, to essay, and will test your progress and understanding of lecture material.

Final Exam (100 pts): A comprehensive final, testing basic understanding and assimilation of lecture material will be given Monday 12 May 2008 at 11:00 am. Format of the final will resemble lecture tests.

Lab Objectives: The mandatory laboratory portion of this class will reinforce, using a hands-on approach, the 4 major components of ecology (i.e., the organism, the population, the community, and the ecosystem). Research addressing each topic will be conducted in Harmon Creek, a stream located at the SHSU field station. This means each student should dress appropriately. No sandals or flip-flops. Rather, each student should purchase an inexpensive pair of rubber boots or hip waders. Boots, long pants and long-sleeve shirts are ideal for field work. There are poisonous snakes, ticks, and chiggers at the field station, so proper attire is necessary.

Lab Presentation (75 pts): Each lab section will be divided into 4 groups. Each group will give a single powerpoint presentation over one of the 4 experiments (to be assigned randomly). The presentation will be graded as a group, including overall effort, quality of the visual aids, effectiveness of verbal communication, introduction and background to the topic, presentation of data, summary of results, and group cooperation.

Manuscript (150 pts): Every lab group will write a scientific paper about the ecology of Harmon Creek (following the format for the journal *Ecology*). This paper will be 20 pages maximum including cover page, graphs, tables, and literature cited. We will write the paper throughout the semester in small sections based on data collected from the 4 laboratory part of the class. I will grade and edit each section separately, and assign an initial percentage (out of 100) for each section. The initial grade for the paper will be the average of all sections written. For example, if you averaged 50% on all sections, your initial points for the paper will be 75. However, you will be allowed and expected to revise the final draft of the paper for up the half of the percentage points deducted from the original first draft. Thus, if you edited all sections of your 50% paper perfectly, you would increase your final paper grade to 75% or 112.5 total points. Each section must be submitted by the due date and time, any late section will receive a grade of zero.

Additional Assignments (50 pts): Additional assignments will be given sporadically throughout the semester to emphasize specific concepts, theories, etc.

Grading: Grades will be assigned based on the following point system: A = 495-550 points, B = 440-494 C = 385-439; D = 330-384; F = 0-329. There will be no curve and no extra credit.

Assignment	Total Points	Tentative Dates
Mini-Lecture Tests	200	Feb.1, 15, 29; Mar. 24, Apr. 4, 18; May 2.
Comprehensive Final Exam	100	May 12; 11:00am-1:00pm
Lab Presentations	50	May 5 and 7
Manuscript (Final Draft)	150	May 12
Take-Home Assignments	50	TBA
Total Points	550	

Tentative Lecture and Lab Schedule

Week	Tentative Topic
16 & 18 January No Lab	Introduction
23 & 25 January (No Class 21 Jan.) No Lab	Abiotic Environment
28 Jan. – 1 February Outside Lab: Ecosystems (Harmon Creek - Observational Lab)	Abiotic Environment
4 – 8 February Outside Lab: Organisms (Collect fish for Lab study)	Abiotic Environment and Biomes
11 – 15 February Inside Lab: Organisms (lab excretion rates)	Organisms I - Adaptations
18 – 22 February Inside Lab: Organisms (lab metabolic rates)	Organisms II – Life History Theory
25 – 29 February Computer Lab: Organisms (analyze data)	Populations I – Natural selection
3 – 7 March Outside Lab: Populations (Mark-Recapture population estimates)	Populations II - Structure
10 – 14 March <i>Spring Break</i>	
17 – 19 March No School on 21 March Computer Lab: Populations (analyze data)	Populations III – Dynamics
24 –28 March Inside Lab: Population Excretion rates	Populations IV – Dynamics

Tentative Lecture and Lab Schedule Cont...

Week	Tentative Topic
31 March – 4 April Inside Lab: Communities (Gut Contents)	Communities I – Interactions
7 – 11 April Computer Lab: Communities (Analyze Data)	Communities II - Coevolution
14 – 18 April Inside Lab: Ecosystems (Bringing it all together)	Communities III – Structure
21 – 25 April Inside Lab: Prepare presentations	Communities IV – Dynamics
28 April – 2 May Computer Lab: Prepare Presentations	Ecosystems
5 –7 May Classroom Lab: Give Presentations	Ecosystems
