BIO 125L – PRINCIPLES OF ECOLOGY & EVOLUTION LAB – SPRING 2020

COURSE CATALOG DESCRIPTION: one semester hour, two hours laboratory per week. Fundamental principles of biological inquiry, scientific analysis and concepts in ecological and evolutionary biology. Required lab fee. Co-requisite: BIO 125 lecture. No pre-requisites.

Instructor: Dr. Dan Bennett
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Office: S-210; Office hours: T, R 9:30–12:00; and widely available at other times by appointment.

Required Materials
Subscription to SimUText computer simulations. Registration information will be provided on D2L and in lecture ahead of the first lab.

Course Website: https://d2l.sfasu.edu/
Check this site regularly for announcements regarding upcoming labs.

GRADING POLICY
BIO 125 lab comprises 25% of the combined lecture & lab score. Combined lecture and lab grades are applied to both BIO 125 & 125L. For example, if one earns an A in lecture, a C in lab, and a B overall, the transcript will record a B for both lecture (125) and lab (125L).

Grading scale: A = 90–100%; B = 80–89%; C = 70–79%; D = 60–69%; < 60% = F

Graded items: The lab grade is based on weekly activities/assignments. There is no final exam for the lab portion of this class.

ATTENDANCE AND ASSIGNMENT POLICY: Attendance is mandatory unless otherwise stated. Unexcused absences, instances of tardiness, and disruptive behavior will incur penalties on graded assignments (5% tardiness, 5% disruptive behavior). If you miss a lab with an excusable absence (as determined by the instructor and University policy; e.g., illness with doctor’s note, University sponsored event, death in the family with documentation provided) contact your instructor ASAP (within two business days the missed class) to request makeup work. Makeup work will not be allowed for unexcused absences. Late assignment submissions will be penalized 10% per day late. If extraordinary circumstances lead to excessive absences (e.g., hospital stay), communicate with the instructor regarding the situation. Certain labs can’t be made up outside of class as they may require class participation, field trips, and demonstrations that are only available temporarily. In these cases, the missed lab will comprise that which is dropped or a makeup lab for may involve a separate writing assignment for an excused absence.

LAB SCHEDULE (SUBJECT TO CHANGE, CHECK D2L FOR CURRENT INFORMATION REGARDING UPCOMING LABS)

*BIO 125 lab begins the 2nd week of the semester.*

Week 1 (Jan. 15): no lab
Week 2 (Jan. 22): Introduction to ecology, evolutionary biology and the scientific method (COs 1-2)
Week 3 (Jan. 29): Mendelian genetics (COs 1-3)
Week 4 (Feb. 5): Hardy-Weinberg (breeding bunnies) (COs 1-3)
Week 5 (Feb. 12): SimUText simulation (experimental design and data analysis) (COs 1, 3)
Week 6 (Feb. 19): Species concepts (COs 1-3)
Week 7 (Feb. 26): SimUText simulation (sickle cell disease) (COs 1-3)
Week 8 (Mar. 4): Building phylogenies (COs 1-4)
Week 9 (Mar. 18): Ecology (COs 1-4)
Week 10 (Mar. 25): Anthromes (COs 1-3)
Week 11 (Apr. 1): SimUText simulation (population growth) (COs 1-3)
Week 12 (Apr. 8): Food webs (COs 1-4)
Week 13 (Apr. 15): SimUText simulation (keystone predator) (COs 1-3)
Week 14 (Apr. 22): SimUText simulation (Isle of Wright) (COs 1-3)
Week 15 (Apr. 29): TBA
STUDENT LEARNING OUTCOMES/OBJECTIVES (SLOs) OF BIO 125/125L
SLO 1. Demonstrate understanding of the process of science by distinguishing between science and non-science and designing experiments that address testable hypotheses. (CO1, CO3)
SLO 2. Use quantitative reasoning to interpret evolutionary and ecological data (tables, figures and graphs). (CO1, CO3, CO4)
SLO 3. Demonstrate understanding of the skills and attitudes necessary for effective teamwork in collaborative learning activities and a semester-long project. (CO1, CO2, CO4)
SLO 4. Critically assess the interrelationship of human dimensions and ecology/evolution and communicate resulting conclusions in oral, visual and written formats. (CO1, CO2, CO4)
SLO 5. Understand evolution as the unifying concept in biology. (CO1, CO2)
SLO 6. Understand the factors that govern interactions between organisms and their environments. (CO1, CO2)

PROGRAM LEARNING OUTCOMES (PLOs) BIO 125/125L
PLO 1. The student will demonstrate a good knowledge base in biological concepts. (SLOs 1, 5, 6)
PLO 2. Clearly articulate scientific information in oral form. (SLOs 3-6)
PLO 3. Clearly articulate scientific information in written form. (SLO 3-6)
PLO 4. Be able to design, carry out, and analyze experiments to answer biological questions. (SLOs 1, 2)
PLO 5. Demonstrate teamwork skills needed to coordinate diverse multidisciplinary teams to solve challenges in the biological world. (SLOs 2-4)

GENERAL EDUCATION CORE CURRICULUM OBJECTIVES BIO 125/125L
The Texas Higher Education Coordinating Board has identified six core learning objectives: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives.

Texas State Core Objectives and associated Student Learning Outcomes:
CO 1. Critical Thinking: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information. (SLOs 1-6)
CO 2. Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication. (SLOs 3-6).
CO 3. Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLOs 1,2)
CO 4. Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal. (SLO 2-4. Assessment of this objective occurs in BIO 125 lecture.)

During spring semesters of even years, the following applies to this class:

By enrolling in BIO 125 you are also enrolling in a core curriculum course that fulfills the Teamwork (CO4) requirement. You will see this course on your D2L list. At one point during the semester, you will receive an assignment that fulfills both the requirements of this course and the needs of Stephen F. Austin State University’s Core Curriculum Assessment Plan with the Texas Higher Education Coordinating Board. When you complete this one assignment, you need to upload the assignment to both your standard course dropbox determined by your Instructor and the “Core Curriculum” dropbox. The Core Curriculum dropbox will be identified by the Objective for which work is being collected. (Examples: Critical Thinking, Teamwork, Social Responsibility Empirical & Quantitative Skills, Personal Responsibility, Communication Skills- Written, Communication Skills- Written & Visual, and Communication Skills- Oral & Visual.) Please note that this only applies to the approved assignment. All other assignments should be submitted according to regular class operations. When you complete the assignment mentioned above, you will upload the assignment to both the BIO 125 dropbox and the Teamwork (CO4) dropbox. Please note that this only applies to the specific assignment listed in the matrix below. All other assignments should be submitted according to regular class operations. If you have any questions, please see your instructor, or contact the at Office of Student Learning and Institutional Assessment at (936) 468-1130.

The chart below indicates the core objectives addressed by this course, the assignment(s) that will be used to assess the objectives in this course and uploaded to the D2L Teamwork dropbox this semester, and the date the assignment(s) should be uploaded to the D2L Teamwork dropbox. Not every assignment will be submitted for core assessment every semester. Your instructor will notify you which assignment(s) must be submitted for assessment in the D2L Teamwork dropbox.
The core curriculum assessment assignment for teamwork will be completed and collected in the lecture portion of this course. Students will further demonstrate skills involving COs 1-4 by completing the assignments listed in the course calendar. For example, during the SimUText simulation “experimental design and data analysis,” students will critically decide what is science and what is non-science, collect and interpret data, and form logical conclusions. During the “building phylogenies lab,” students will develop empirical skills and critical thought by making careful observations of various organisms. Students will determine the evolutionary significance of specific features in a setting that requires information exchange and group-decision making that will emphasize teamwork skills. Collected data will be further visualized and communicated by constructing an evolutionary tree that reflects hypotheses concerning the evolutionary history of the organisms observed.

ACADEMIC INTEGRITY: Academic integrity is expected of everyone in this course. Any form of academic dishonesty will lead to the student receiving a failing grade for the entire course. Additionally, a Report of Academic Dishonesty form will be submitted to your Dean’s office.

SFA Policy A-9.1 is summarized as follows: Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism. Definition of Academic Dishonesty: Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit. Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

WITHHELD GRADES (Semester Grades Policy A-54): Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. The circumstances precipitating the request must have occurred after the last day in which a student could withdraw from a course. Students requesting a WH must be passing the course with a minimum projected grade of C.

STUDENTS WITH DISABILITIES: To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, Room 325, 468-3004/468-1004 (TDD), as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodation. For additional information, go to http://www.sfasu.edu/disabilityservices/. Please note that you must visit with me outside of class time concerning your request before I will be able to provide the accommodations described in the notification from ODS.