Principles of Ecology and Evolution
Biology 125
Fall 2018

Class meeting time and place: TR 3:30-4:45 PM, Miller Science 137
Professor: Dr. Ray Kamps
Department: Biology
Phone: 936.468.2322
E-mail: kampsrh@sfasu.edu
Office: Miller Science Rm. 123
Office hours: WR 9 a.m. – 11:30 a.m., and by appointment
Text: Biological Science, Volume 2 Freeman 5th edition
Lab Subscription to SimBio is required. Information will be available on D2L
Course online resources: see D2L
SI: Sarah Ebert

Notice: Classroom, office, phone, email and office hours subject to change due to the recent change of instructors for this class. Dr. Kamps reserves the right to correct errors.

Course Description:
4 semester hours, 3 hours lecture, 2 hours lab per week. Fundamental principles of biological inquiry, scientific analysis, and concepts in ecological and evolutionary biology.

Student Learning Outcomes:
After successful completion of this course student will be able to:
SLO 1. Demonstrate understanding of the process of science by distinguishing between science and non-science and designing experiments that address testable hypotheses.
SLO 2. Use quantitative reasoning to interpret evolutionary and ecological data (tables, figures and graphs) from primary research, theoretical models and computer based-simulation experiments.
SLO 3. Demonstrate understanding of the skills and attitudes necessary for effective teamwork in collaborative learning activities and a semester long project.
SLO 4. Critically assess the interrelationship of human dimensions and ecology/evolution and communicate resulting conclusions in oral, visual and written formats.
SLO 5. Understand evolution as the unifying concept in biology.
SLO 6. Understand the factors that govern interactions between organisms and their environments.

Program Learning Outcomes: Departmental PLOs and associated Student Learning Outcomes.
PLO 1. The student will demonstrate a good knowledge base in biological concepts (Knowledge). (SLO 1,5-6)
PLO 2. Clearly articulate scientific information in oral form. (SLO 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. (SLO 1-2)
PLO 5. Demonstrate teamwork skills needed to coordinate diverse multidisciplinary teams to solve challenges in the biological world. (SLO 2-4)

General Education Core Curriculum Objectives/Outcomes: Texas State Exemplary Educational Objectives and associated Student Learning Outcome.
CO 1. Critical Thinking: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information. (SLO 1-6)
CO 2. Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication. (SLO 3-6)
CO 3. **Empirical and Quantitative Skills**: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLO 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)

**Course Requirements:**

Your final grade in this course is determined by grades from lab based inquiry activities, lecture exams, a group project (with an individual component), quizzes, online discussion, and participation in the course evaluation.

**Laboratory Activities:** Students will conduct a variety of inquiry activities in the lab section of the course. Each lab meeting will include written and oral instruction on the critical thinking skills developed in that activity and will include written and oral instruction in the empirical and quantitative skills used in that activity. Laboratory activities will include *structured/guided inquiries* in which students work through examples, questions, problems and case studies. Students will evaluate examples of primary literature and participate in group discussions. Additionally students will *conduct experiments to test hypotheses* in which they collect data using online databases and field based methods, analyze data using computer software, synthesize data and present conclusions using visual (graphical), written (lab reports), and oral (presentation) communication.

**Group Project:** As a group, students will conduct a research project and present the results of the project to the class. This is a semester-long project designed to emphasize teamwork and communication skills. Students will be assigned groups in the first week of class and will participate in group and class discussions about characteristics and strategies for effective groupwork. The project itself will be a digital media that will require students to prepare a written script, present the project orally and with computer-generated visual aids. The project will consist of multiple assignments that will be assessed following the Core Curriculum Objectives including a Group Contract (CO2, 4), a Prospectus/Abstract (CO1, 2, 4), an annotated bibliography (CO1, 2, 4), a storyboard/draft (CO 1, 2, 4), a project journal (CO 4), a project reflection (CO 2, 4) and the final project itself (CO 1, 2, 4).

**Grading Policy:**

Your final grade in this course is determined by grades from the laboratory, lecture exams, quizzes and participation.

- 3 Mid-term exams: 45%
- 1 Final Exam (1/2 cumulative): 20%
- Quizzes: 10%
- In-class work/participation: 10%
- Group Project: 15%

---individual grade is 5%, group grade is 10%

The lecture portion of your grade is determined by earning 90%, 80%, 70% and 60% of the available points for the associated traditional letter grade. The lecture portion makes up 3/4 of your course grade with the lab portion making up the remaining 1/4th.

**Example:**

<table>
<thead>
<tr>
<th>Lecture Average: 92</th>
<th>Lab Average: 75</th>
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<tbody>
<tr>
<td>Final grade = 92 + 92 + 92 + 75 = 351, 351/400 = 87.8 % = B</td>
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</table>

This is a complex formula and I will post some examples in D2L to make it easier to follow. The main point is that your grade is based on a lot of small grades instead of a few big grades. Don’t fall behind in your work and don’t miss any classes or labs.

**Exams:** There will be 3 midterm exams. All exams may consist of multiple-choice, matching, true/false, short answer, diagramming, concept maps, calculation and/or short essay questions. **There are no dropped grades in this course.**
THE FINAL EXAM WILL CONSIST OF TWO PARTS:
Part 1 consists of 30 - 40 questions from the final section on of the course on ecology.  
Part 2 consists of 30 - 40 questions that are cumulative, covering the material from the entire course.

Starting Exams On Time: All students must be there to start the exam at the start of the normal time whether in the lecture hall or Disability Services. No students will be allowed to leave exam until 30+ minutes of the exam period have passed. (Also, all Disability Services students must email the professor at least 24 hours in advance before the exam to confirm arrangements.)

Other Exam Info: Grades on exams will be posted on D2L. Exams will not be returned. Students are encouraged to come to office hours to go over exams to see what they missed. If a student thinks there is an error in grading of the exam, the entire exam will be regraded.

Quizzes: Quizzes are designed to encourage you to keep up with the material and be ready for in-class activities. You will need a to take the quizzes online in D2L before the class period starts. There will be no make-up for missed quizzes.

Evaluations and surveys: It is now departmental policy to require students to fill out online class evaluations at the semester’s end (instructions will be provided at a later date).

Lecture participation: Class attendance is mandatory, and prompt arrival is crucial. Students will participate in prepared group activities and will be graded on participation and the correctness of this work. Participation questions could be given at any time of any class, including right at the beginning of lectures, so it is crucial to arrive on time. Participation and in class work counts for 10% of the total course grade.

Group Project: Groups will produce 5 minute digital media presentations during the last week of class on special topics related to course material. This will account for 15% of your grade. They will be graded for content, as well as participation in self and group assessments. More details will be given during the semester and on D2L. The group projects involve setting up a group structure, conducting meetings and regularly turning in documentation of progress. There are both individual and group grade on the project. Each student in the group will have specific responsibilities and will receive an individual grade for those aspects of the project. The overall project will then receive a grade which will apply to everyone in the group.

Acceptable Student Behavior: Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1, http://www.sfasu.edu/policies/student_conduct_code.asp). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

***Class etiquette***

Do not be late for class.
Do not leave before the class period is over.
Do not anticipate the end of class and start putting your things away.
Do not talk during class.
No cell phones/smartphones are ever allowed on during class.
Use of computers is forbidden unless instructed for particular activities, or documented need (i.e. disability. Please see instructor)
**Academic Integrity (A-9.1):** Abiding by university policy on academic integrity is a responsibility of all university faculty and students. Faculty members must promote the components of academic integrity in their instruction, and course syllabi are required to provide information about penalties for cheating and plagiarism as well as the appeal process.

**Definition of Academic Dishonesty**
Academic dishonesty includes both cheating and plagiarism. Cheating includes, but is not limited to:

- using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class;
- falsification or invention of any information, including citations, on an assignment; and/or,
- 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 include, but are not limited to:

- submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another;
- submitting a work that has been purchased or otherwise obtained from the Internet or another source; and,
- incorporating the words or ideas of an author into one's paper or presentation without giving the author due credit.

**Procedure for Addressing Student Academic Dishonesty**
A faculty member who has evidence and/or suspects that academic dishonesty has occurred shall gather all pertinent information, approach the student(s) involved, and initiate the following procedure:

- The faculty member shall review all evidence of cheating or plagiarism and discuss it directly with the student(s) involved. The faculty member shall inform the student(s) of the procedure for addressing academic dishonesty, as well as the appeals process.
- After hearing the student(s)’ explanation or defense, the faculty member will determine whether or not academic dishonesty has occurred and will inform the student(s) what action will be taken. Penalties may include reprimand, no credit for the assignment or exam, re-submission of the work, make-up exam, or failure of the course. The faculty member may consult with the academic unit chair/director and dean in making these decisions.
- After a determination of academic dishonesty, the faculty member shall notify the office of the dean of the student’s major by submitting a Report of Academic Dishonesty, along with supporting documentation as noted on the form. This report shall be made part of the student’s record and shall remain on file with the dean’s office for at least four years.
- Upon second or subsequent offenses, the dean of the student’s major will determine a course of action, which may include dismissal from the university. The dean may refer the case to the college council for review and recommendations before making this determination.

A student’s record of academic dishonesty will not be available to faculty members. The purpose of the record is for the dean to track a pattern of academic dishonesty during a student’s academic career at Stephen F. Austin State University. Students who are found to have demonstrated academic dishonesty and have withdrawn prior to the award of a grade will continue to have the determination of the infraction within their student records.

**Student Appeals**
A student who wishes to appeal decisions related to academic integrity should follow procedures outlined in Academic Appeals of Students (A-2).

Source: [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)
Withheld Grades Semester Grades Policy (A-54):

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 semesters, the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Source: http://www.sfasu.edu/policies/semester_grds.asp

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, and 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 accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

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<tr>
<th>#</th>
<th>Date</th>
<th>Topic</th>
<th>Reading</th>
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<tbody>
<tr>
<td>1</td>
<td>T Aug 28</td>
<td>Critical Skills in Science</td>
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<tr>
<td>2</td>
<td>R Aug 30</td>
<td>Scientific Inquiry</td>
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<td>3</td>
<td>T Sept 4</td>
<td>Scientific Method</td>
<td>p. 1-15</td>
</tr>
<tr>
<td>4</td>
<td>R Sept 6</td>
<td>Intro to Evolution &amp; Evidence</td>
<td>p. 444-453, 459-462</td>
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<td>5</td>
<td>T Sept 11</td>
<td>Heredity &amp; Mendelian genetics</td>
<td>Posted Reading</td>
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<td>6</td>
<td>R Sept 13</td>
<td>Hardy Weinberg equilibrium</td>
<td>p. 465-472</td>
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<td>7</td>
<td>T Sept 18</td>
<td>HWE continued</td>
<td>p. 465-472</td>
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<td>8</td>
<td>R Sept 20</td>
<td>Exam 1</td>
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<td>9</td>
<td>T Sept 25</td>
<td>Microevolution: Natural Selection</td>
<td>p. 453-459, 472-475</td>
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<td>10</td>
<td>R Sept 27</td>
<td>Microevolution: Sexual Selection</td>
<td>p. 475-478</td>
</tr>
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<td>11</td>
<td>T Oct 2</td>
<td>Microevolution: Genetic drift</td>
<td>p. 478-482</td>
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<td>12</td>
<td>R Oct 4</td>
<td>Microevolution: Migration &amp; Mutation</td>
<td>p. 482-486</td>
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<td>13</td>
<td>T Oct 9</td>
<td>Macroevolution: Species concepts</td>
<td>p. 489-494</td>
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<td>16</td>
<td>R Oct 18</td>
<td>Exam 2</td>
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<td>17</td>
<td>T Oct 23</td>
<td>Climate</td>
<td>p. 1059-1068</td>
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<td>18</td>
<td>R Oct 25</td>
<td>Biomes</td>
<td>p. 1068-1080</td>
</tr>
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<td>19</td>
<td>T Oct 30</td>
<td>Populations: Dist’n &amp; Life History</td>
<td>p. 1101-1107</td>
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<td>21</td>
<td>T Nov 6</td>
<td>Population Growth Continued</td>
<td>p. 1112-1120</td>
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<td>22</td>
<td>R Nov 8</td>
<td>Exam 3</td>
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<td>23</td>
<td>T Nov 13</td>
<td>Community Ecology: Species interactions</td>
<td>p. 1123-1135</td>
</tr>
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<td>24</td>
<td>R Nov 15</td>
<td>Community Ecology: Biodiversity</td>
<td>p. 1135-1138, 1142-1145</td>
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<td>25</td>
<td>T Nov 20</td>
<td>THANKSGIVING</td>
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<td>26</td>
<td>R Nov 23</td>
<td>THANKSGIVING</td>
<td></td>
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<tr>
<td>27</td>
<td>T Nov 27</td>
<td>Succession</td>
<td>p. 1138-1142</td>
</tr>
<tr>
<td>29</td>
<td>T Dec 4</td>
<td>Ecosystem Ecology: Nutrient cycling</td>
<td>p. 1156-1162</td>
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<tr>
<td>30</td>
<td>R Dec 6</td>
<td>Ecosystem Ecology: Climate Change</td>
<td>p. 1163-1169</td>
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**Final Exam**  
Tuesday, December 11  
1-3PM

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And Finally, BIO 125 is a general education core curriculum course and fulfills the “Teamwork” general education core curriculum requirement. The university sometimes double checks to be sure that the course is actually fulfilling the requirement that it claims it is. If that happens this semester, I am required to notify you of the following:

**General Education Core Curriculum**
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.

By enrolling in BIO 125, you are also enrolling in a Core Curriculum Course that fulfills the Teamwork general education core curriculum requirement. Another, “shell” course has been created to collect student artifacts to meet this state requirement. You will see this course on your D2L list.
During this 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 the BIO 125 dropbox and the Teamwork 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 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.

*Include only the core objectives taught in this course and indicate which objectives are being formally assessed in this semester.*

<table>
<thead>
<tr>
<th>Core Objective</th>
<th>Definition</th>
<th>Course Assignment Title</th>
<th>Date Due in D2L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamwork</td>
<td>To include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.</td>
<td>Group Project Evaluation</td>
<td></td>
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</tbody>
</table>