OKLAHOMA CITY UNIVERSITY

BIOL 3314 COURSE SYLLABUS
PRINCIPLES OF ECOLOGY Fall 2009

Lecture: MWF 10:00-10:50am in LO 207
Laboratory: Tues. 2:30-5:15pm in LO 102

INSTRUCTOR
Dr. Adam K. Ryburn 208-5044
Office: LO 103, hours: MWF 11–12, T 10–12, or by appointment aryburn@okcu.edu

COURSE DESCRIPTION
This course involves the study of the interactions between organisms and their environments. It encompasses theories that explain phenomena that are observable in nature. Principles of Ecology is not environmental science, which very specifically deals with human impact on the environment. Both abiotic and biotic components of ecosystems are presented in this course. The format for the class will include formal lecture, small group discussion, and laboratory exercises. This course is primarily for Biology majors although other science students may take this class. Prerequisite: BIOL 1214 - Fundamentals of Biology or equivalent.

COURSE GOALS AND OBJECTIVES:
1) Development of an appreciation and understanding of ecosystem interactions
2) Attainment of knowledge about current theories and methodologies in ecology
3) Accession of the literature in ecology (via electronic and traditional means)
4) Integration of computers in the field
5) Development of experimental design techniques for ecology
6) Interpretation of observations and data in the framework of lab reports and statistical analyses
7) Synthesis of an ecological topic via review articles

TEXT & REQUIRED MATERIALS
Three-ring notebook (1 ½”) to hold standard 8.5” x 11” paper.
A packet of 100 -- 3” x 5” ruled note cards.

RECOMMENDED TEXT
LECTURE & LABORATORY PROCEDURES

This course is offered in the liberal arts tradition; thus you are expected to learn a body of facts and concepts. Topics will be discussed in depth in order that you will have an understanding of the discipline's origins and present diversity.

A tentative schedule of lecture and laboratory topics is attached. Lecture presentations will consist of introductions to the important facets of ecology. Laboratory work will illustrate and support these facets. Reading assignments will be made periodically. You are responsible for all assigned material. Complete assigned readings prior to their discussion in lecture. The material presented in the course can be difficult, but will be easier to understand if you read the assigned material first.

**ATTENDANCE:** Punctual attendance is essential to success in this course because of the integrated nature of the lectures and labs and the quizzes and exams. It is assumed that excessive absence will result ultimately in inferior academic achievement by the student. If you are not in class, you are not learning! Missed lectures, labs, homework assignments, examinations, and quizzes cannot be made up unless justification for being absent from class is provided and accepted beforehand, regardless of the excuse of the absence. **Arrive to class on time and do not leave class early.**

**CONDUCT IN LECTURES:** Since all students are entitled to an environment that is conducive to learning, you are expected to keep disruptions to a minimum. You should be in class and ready to begin on time. If you do come in late, be as quiet as possible. All devices that generate sound, including pagers, cell phones, electronic games, radios, CD players and MP3 players (iPods, etc.) **MUST** be turned off before class begins. Disruption of class, whether by latecomers, noisy devices, or inconsiderate behavior (e.g. talking), will **NOT** be tolerated. Repeated violations by individuals may result in penalties, including being dropped from the class. If any of these devise are found to be operating during any exam or quiz, this action will result in failure of the assignment.

**EXAMS, QUIZZES, CLASS ASSIGNMENTS, & GRADING**

**EXAMS:** Three exams will be given on the following dates, covering all the material presented in lecture and lab and assigned readings since the last exam.

- Tuesday 29 September
- Tuesday 3 November
- Monday 14 December (Final 10:00 am-12:00 pm)

**POLICY ON MISSED EXAMS:** If you are unable to take an exam you must contact Dr. Ryburn prior to the exam or within 24 hours of the date of the exam and provide a valid, documented excuse (doctor's note, arrest report, etc.) as to why you cannot take the exam in order to schedule a make-up. Failure to notify us within 24 hours will result in a grade of zero for that exam. This policy will be strictly enforced.

**LECTURE QUIZZES AND ASSIGNMENTS:** Quizzes and in-class and take-home assignments (including online assignments) will be given periodically in the lecture throughout the semester. These short exercises will cover your knowledge on current topics from lecture and laboratory. It will be each student’s responsibility to bring to class and use 3” x 5” note cards for many of these exercises. Lecture exercises will total 100 points. **Exercises may or may not be announced ahead of time so always come to class prepared.**

Exam and quiz questions are designed to assess whether one has learned all of the factual material presented; whether one understands it; whether one has learned all of the principles that provide a conceptual framework for it; and finally whether one can use these principles and facts to generate new thoughts and answers to problems in biology.

Exams and quizzes will include a mix of questions in various formats: multiple choice, identification, short answer, fill-in-the-blank, labeling of drawings or diagrams, and essay. Identifications represent short answers—generally written as sentence fragments or phrases—that include specific factual information as
who, what, when, where, why, how, and the scientific significance of the item. Each exam and quiz will be evaluated in terms of spelling, grammar, clarity of expression, and creativity, as well as technical expertise. Students are expected to be able to present scientific information with accuracy and clarity appropriate for the college level.

**Species of Concern Paper and Presentation:** You must develop an 8-10 page typed paper with at least ten references relating to a species of your choice that is widely considered to be of concern; i.e., an invasive species, a threatened or endangered species, etc. In addition, you will present this paper in the form of a 7-8 minute oral presentation on Dec. 1st. Further information on format and other info will be presented soon. This assignment is worth 150 points.

**Species Journal:** You are required to keep a written record of each organism we encounter in this course. A complete and thorough species record shall include the scientific and common name of the organism and a detailed description of the habitat in which the organism was discovered. Your journal will be collected and graded periodically by Dr. Ryburn. The species journal is worth 50 points.

**Lab Exercises:** A tentative schedule of laboratory exercises is presented on the last page of this syllabus. Many of the lab exercise will involve statistical analysis and require written reports or completion of prepared handouts from the instructor. Although completion of some exercises will require collaborative efforts, you are required to prepare your own assignments. **Those not prepared according to the instructions given or submitted late will not be accepted.** Unless indicated otherwise, completed assignments are due at the beginning of the following lab period.

**Field Trips:** On occasion we will be taking local field trips to ecologically interesting areas around the metro area. These trips will be taken during the lab period on Tuesdays or another agreed upon day. Because this is a “field course” it is expected that students should come prepared to go outside regardless of the location or environmental conditions (within reason). The dates of field trips are marked on the schedule. Everyone must participate in these field trips and there will be no make-ups. These field trips are an essential part of this course. Each student is, therefore, required to go on each trip. Because the trips are not recreational excursions, MP3 players, cell phones, alcohol, illegal substances, guns, bows, fishing gear, and other recreational items are not allowed.

We will also be taking a weekend field trip to Robber’s Cave State Park (Sept. 18-19) to participate in BioBlitz! sponsored by the Oklahoma Biological Survey. We will be leaving from campus during the Friday lecture period (10:00am) and returning late on the evening on Saturday, Sept. 19th. Transportation is provided by the Biology Department. **This is a mandatory field trip so make appropriate plans to avoid conflicts.** More details to will be discussed later.

Two optional field trips will also be available this semester. The Oklahoma Academy of Science (OAS) will have their Fall Field Meeting at Osage Hills State Park on Oct. 9-11 and the Annual Technical Meeting at East Central University (Ada) on Nov. 6th. If you wish to participate in one or both of these optional adventures, please let me know ASAP so that traveling arrangements can be made.

### Class Points
- Exams ........................................ 300 points
- Lecture Quizzes and Exercises... 100 points
- Laboratory Exercises .............. 200 points
- Species Journal ............................ 50 points
- Species of Concern Paper........... 150 points
- Total ........................................... 800 points

### Grade Levels (conversion of points into letter grade):

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**INCOMPLETE GRADE POLICY:** A grade of Incomplete ("I") will only be assigned if documented extraordinary circumstances preclude you from completing the course, and only if the circumstances are beyond your control. Procrastination specifically is not a reason. Also, it is OCU’s policy that retroactive withdrawals or assignment of incompletes will not be allowed after the semester’s end. The “I” will be removed in accordance with university policy stated in the 2009-10 web-based undergraduate catalog.

No extra credit will be given for papers, readings, reports, etc. for the purpose of grade improvement.

**ACADEMIC HONESTY**

The university’s codes of academic honesty and conduct (stated in the 2009-2010 web-based undergraduate catalog) will be rigorously observed. In addition to the university criteria, the instructor makes the following provisos: any incident of academic dishonesty or academic misconduct, including cheating on exams, quizzes, homework, etc., when confirmed will result in a failing grade for the particular assignment and possible failure of the course. It is the responsibility of each individual to insure that other individuals do not see his or her homework, report, exam, or quiz answers, etc., and that other individuals do not plagiarize or otherwise misuse his or her work. Passive cooperation is unacceptable; it will be considered academic dishonesty.

**INTERNET RESOURCES**

It is also highly encouraged that students attempt to utilize the online tutorials, illustrations, and quiz exercises provided by the publishers of the textbook. These materials can be found at the following website:

http://highered.mcgraw-hill.com/sites/0073383228/student_view0/index.html

Other illustrations, diagrams, images, and supporting text can be found by referencing the topic at a number of internet search engines. For finding and viewing images, the best recourses are those of www.google.com and www.yahoo.com under the search images areas.

Students requiring an accommodation due to disability covered under the Americans with Disabilities Act should contact the Student Health and Disabilities Service Office immediately at 208-5991 or 208-5090. Advance notice is required for many accommodations.

The instructor reserve the right to modify the requirements of the course, the format of the examinations, and the scheduling of activities as necessary to enhance the learning process.