

ANIMAL BIOLOGY – BIOL 2044

SPRING 2011

CATALOG DESCRIPTION

A survey of the relationships within the animal world (including the earth's environment and eco-evolutionary interactions that permitted evolutionary change and speciation), animal form and function (emphasizing the coordination of functional systems and environmental requirements), and classification (emphasizing diversity, evolution and natural history of each group).

COURSE OBJECTIVES

In keeping with the overall goals of the "Science Division, this course is designed to provide students with the opportunity to enhance their understanding of complex biological subject matter and to develop the skills necessary for independent and critical analysis of complex phenomena, data, and observations encountered in the scientific endeavor. In this multidisciplinary approach, our academic exploration will include but will not be limited to analysis of anatomical, physiological, ecological, evolutionary, genetic, and cellular systems in plants, animals and microbes. Emphasis will be placed on developing the students' skills in inquiry-based problem solving, design and execution of experiments, interpretation of experimental data, and presentation of experimental results in both written and oral format. Moreover, it is the intent of this course to enhance the students' understanding of the interconnectedness of the sciences by relating the major concepts of chemistry, earth/space sciences, and physics, to the biological sciences; and to emphasize and apply mathematical concepts, including statistics and pre-calculus to investigations in biology and the analysis of data. Finally, it is the goal of this course to provide an environment in which the students can explore the relatedness of historical, sociological, technological, and ethical issues and developments to the study of contemporary Biology.

CLASS DATES

Section A:	Mon., Wed., Fri.	11:00-11:50am	WSB Rm 118
Laboratory:			
Section 1	Mon.	2:00-5:00	WSB Rm 115
Section 2	Thur	2:00-5:00	WSB Rm 115

INSTRUCTOR

Dr. Dale Utt, Ph.D.

Office: WSB 119D

Office hours: MW 10:00-10:50, F 1:00-2:00 others by appointment

Phone 405-878-2042 e-mail dale.utt@okbu.edu

CREDIT HOURS

Lecture - 4 credits

Lab - 0 credits

TEXTS

Integrated Principles of Zoology: 15th ed. By Hickman, Roberts, Keen,
Eisenhour, Larson & I'anson

General Zoology, A Laboratory Guide: 14th ed. By Lytle & Meyer

A Field Guide to the Insects of America North of Mexico: By Borror & White

PREREQUISITES

CHEM 1114, concurrent enrollment in CHEM 3114. Laboratory is required.

CLASS PARTICIPATION

Students are expected to have made thorough preparation for each class period. Well-prepared students will be those who have made an honest attempt to read these sections and master these concepts PRIOR to coming to class, for, unfortunately, fifty minutes is insufficient time to cover every topic in great depth. You are expected to master all the concepts regardless of whether or not we have specifically covered them in class.

Therefore, be prepared to ask questions, as much of the class period will be devoted to addressing concepts with which you may be having difficulty.

ATTENDANCE

The Oklahoma Baptist University attendance policy will be followed according to guidelines published in the Student Handbook.

EXAMS

There will be five major exams and a comprehensive final, all of equal value.

LABORATORY

Attendance at all laboratory sessions is required. I expect to be informed in advance if illness or some other emergency prevents your attendance in lab or lecture. For specific topics and laboratory requirements see lab syllabus below.

LATE ASSIGNMENTS

Arrangements for make-up exams must be made at least 24hrs in advance of the test date and will only be granted in cases of extreme illness or family emergency. Other reasons may be considered at the discretion of the instructor and the grade for that assignment will be reduced by a minimum of a full letter grade from the score achieved on the make-up exam.

GRADES

Grades will be based on the standard 100 percent scale: A (100-90%), B (89-80%), C (79-70%), D (69-60%), F (59% and below). Percentages will be based on the following components:

5 exams x 100 points each	500 points
Final Exam at 100 points	100 points
2 Laboratory Practicals x 100 points each	200 points
Insect Collection	100 points
Powerpoint Assignment	50 points
<u>Zoo Project</u>	<u>50 points</u>
TOTAL POINTS	1000 points

OFFICE HOURS

My office hours are Monday and Friday 10-11 and Friday 1-2. You can also make an appointment to meet with me at other times. If you stop by my office at the designated times and I am not in, you will probably find me in the laboratory preparing for class or working in the museum area.

STUDENTS WITH DISABILITIES

Oklahoma Baptist University complies with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. Students with disabilities who need special accommodations must make their requests and submit documentation to the Director of Student Services office located in the Geiger Center, Room 101.

Additional important academic information for OBU Students regarding attendance policies, tutoring opportunities, chapel attendance policies, and more can be accessed using the following link:

http://www.okbu.edu/academics/forms/Syllabus_Attachment_Spring11.pdf

LECTURE SCHEDULE

DATE	ASSIGNMENT	TOPIC
01/24/11	Chapter 1	Intro & discussion of syllabus
01/26/11	Chapter 2 & 6	Origin of life
01/28/11	Chapter 2 & 6 continued	Origin of life and evolution
01/31/11	Chapter 3	The cell as the unit of life
02/02/11	Chapter 4	Physiology of the cell
02/04/11	Chapter 9	Architectural pattern of animals
02/07/11	Chapter 10	Classification, phylogeny of animal
02/09/11	Exam I	None
02/11/11	Chapter 11	Protozoa
02/14/11	Chapter 12	Porifera
02/16/11	Chapter 13	Radiate animals
02/18/11	Chapter 14	Flatworms & Mesozoans
02/21/11	Chapter 15	Gnathiferans & Lophotrochozoans
02/23/11	Chapter 16	Molluscs
02/25/11	Exam II	None
02/28/11	Chapter 17	Segmented worms
03/02/11	Chapter 19	Arthropods
03/04/11	Chapter 20	Aquatic mandibulates
03/07/11	Chapter 21	Terrestrial mandibulates
03/9 & 11	Special projects	
03/12-3/20	Spring Break	Enjoy nature, collect insects
03/21/11	Chapter 18	Ecdysozoans
03/23/11	Chapter 22	Echinoderms and Hemichordates
03/25/11	Exam III	None
03/28/11	Chapter 23	Chordates
03/30/11	Chapter 24	Fishes
04/01/11	Chapter 25	Amphibians
04/04/11	Chapter 26	Reptiles
04/06/11	Chapter 27	Birds
04/08/11	Chapter 28	Mammals
04/11/11	Exam IV	None
04/13/11	Chapter 31	Internal Fluids
04/15/11	Assessment Day/ Chapter 29	Support, protection & movement
04/18/11	Chapter 30	Homeostasis
04/20/11	Chapter 32	Digestion & Nutrition
04/22/11	Good Friday	No Class
04/25/11	Chapter 33	Nervous Coordination
04/27/11	Exam V	None
04/29/11	Chapter 36	Animal Behavior
05/02/11	Chapter 37	Animal Distribution
05/04/11	Chapter 38	Animal Ecology
05/06/11	Catch-up & review, collect & prep	
May 11	FINAL EXAM	3:15pm-5:15pm

LABORATORY SCHEDULE

DATE	VIDEO MATERIAL	SPECIMENS AND DISSECTION
Jan 24, 27	“Birth of the Earth”, “Charles Darwin and the Tree of Life”	Stromatolites, Jack Hills, Australia Zircon sample
Jan 31 Feb 3	“Voyage to the Galapagos” Utt Powerpoint, “What About God?”	Resources: “Science and Religion: A Very Short Introduction” by Thomas Dixon, American Scientific Affiliation – www.asa3.org
Feb 7, 10	“Triumph of Life: 4 Billion Year War”, “Shape of Life: Sponges”	Protozoa and Porifera
Feb 14,17	“Shape of Life: Cnidaria”, “Shape of Life: Flatworms”	Cnidaria, Ctenophora, Platyhelminthes
Feb 21, 24	“Shape of Life: Molluscs”, “Incredible Suckers”, “Shape of Life: Annelids”	Molluscs and Annelids Dissect earthworm, clam, squid
Feb 28, Mar 3	“Shape of Life: Arthropods”, “Life in the Undergrowth”	Myriapods, Arachnids, Crustaceans, Insects Dissect crayfish, grasshopper
Mar 7, 10	“Shape of Life: Echinoderms”	Echinoderms Dissect starfish
03/14,17/11	SPRING BREAK	Collect insects
03/21,24/11	Lab Exam I	
Mar 28, 31	“Shape of Life: Chordates”, “Secret Life of Sharks and Rays”	Chordates and Fishes Dissect shark and perch
Apr 4, 7	“NOVA: The Missing Link”, “Nature: Toadskin Spell” “Life in Cold Blood”	Amphibia and Reptiles Dissect frog Ancient life replicas
Apr 11, 14	“NOVA: <i>T. rex</i> Exposed”, “NOVA: Case of the Flying Dinosaur”	Dinosaurs and relatives
Apr 18, 21	“Life of Birds: The Mastery of Flight”, “Life of Mammals: A Winning Design”	Aves and Mammalia Dissect fetal pig Oklahoma mammals & birds
Apr 25, 28	“Body by Nature”, “The Animal Mind: Do Animals Have Emotions?”	Vertebrate body plan Animal Behavior
May 2, 5	Lab Exam II	
May 6	Insect Collection Due at 5:00pm	