



AMBROSE

**ZOO 277 Biology of Vertebrates (3)
Winter 2014**

Course Description

This course examines the comparative anatomy, function, and development of the vertebrate groups

Further Course Information

Prerequisite: BIO 133

Class Schedule

Meeting Times:

Lecture – Tuesdays and Thursdays 9:45-11:00

Lab – Mondays 12:30-2:30

Meeting Room:

Lecture – RESIDENCE LL122

Lab – A2145

Instructor

Dr. Aaron L. Alford

Office: A2160

Office Hours: M 3:00-4:00, T,Th 12:00-1:00, or by appointment

Phone: (403) 410-2000, ext. 5940

Email: aalford@ambrose.edu

Textbook (required)

Kardong, K. V. 2012. Vertebrates: Comparative Anatomy, Function, Evolution.
McGraw-Hill, New York.

Attendance

Regular attendance will be essential for success on all exams and assignments. No points will be subtracted from the grade for non-attendance. However, some assignments cannot be made up if missed.

Course Outline

- I. Chordate History and Basic Architecture
 - A. Phylogeny
 - B. Chordate Origins
 - C. Vertebrate Origins
 - D. Integumentary System
 - E. Skeletal System
 - 1. Skull Characteristics
 - 2. Axial Skeleton
 - 3. Appendicular Skeleton

- II. Locomotion and Sensation
 - A. Muscular System
 - 1. Cell Types
 - 2. Functions of Muscle
 - B. Nervous System
 - 1. Cell Types
 - 2. Peripheral Nervous System
 - 3. Central Nervous System

- III. Regulation and Homeostasis
 - A. Energy and Nutrient Assimilation: Digestive System
 - B. Osmoregulation and Waste Disposal: Urinary System
 - C. Reproduction
 - 1. Endocrine System
 - 2. Reproductive System
 - D. Gas and Nutrient Exchanges
 - 1. Respiratory System
 - 2. Circulatory System

Learning Objectives

1. Students will gain a greater understanding of comparative vertebrate anatomy and physiology
2. Students will be able to discuss the evolutionary history, biological diversity and modern relationships between vertebrate
3. Students will learn dissection techniques in the laboratory essential to research in zoology-related fields.
4. Students will collaborate with peers in a laboratory setting

Course Requirements

Assignments

All exams and assignments are announced and/or scheduled in advance. Assignments are due at the designated time; please see the late policy below for additional information about late work.

Lecture

1. Lecture exams are objective, utilizing a variety of formats including multiple-choice, matching, true/false, completion, short answer, and long answer questions.
2. The final exam will have a structure similar to other lecture exams, with a combination of question formats. Approximately 75% of the final exam will cover new material, whereas approximately 25% of the exam will consist of comprehensive material. Further details regarding this comprehensive material will be forthcoming.

Lab (Begins 13 January)

1. Lab practical exams are based on previous laboratory activities and may utilize matching, true/false, practical, completion and short answer questions and may be timed. **Lab exams cannot be made up if missed.**

Please note: Attendance at the laboratory sessions is compulsory. Any lab missed without a valid excuse cannot be made up. A valid excuse (such as illness, death in the family etc.) must be validated by written proof from a doctor or counselor.

Point Distribution

Activity	Percent of Grade
Written Exams (2)	33%
Lecture Activities	9%
Final Exam (1)	25%
Lab Practicals (3)	33%

Grading Scale

A+	97-100%	C+	67-69%
A	93-96% Excellent	C	63-66% Satisfactory
A-	89-93%	C-	60-62%
B+	83-89%	D+	54-59%
B	77-82% Good	D	50-53% Minimal Pass
B-	70-76%	F	Below 50% Fail

Please note: An appeal for change of grade on any course work must be made to the course instructor within one week of receiving notification of the grade. An appeal for change of final grade must be submitted to the Office of the Registrar in writing within 30 days of receiving notification of the final grade, providing the basis for appeal. A review fee of \$50.00 must accompany the appeal to review final grades. If the appeal is sustained, the fee will be refunded.

Important Notes

Revised Final Exam Times

Students may request revised final exams if they have three exams in one 24-hour period or two exams at the same time. Final exam schedule revision request forms are available at the Registrar's Office and must be handed in by Monday, October 28, 2013 (Fall semester) or Monday, March 3, 2014 (winter semester). If you do not have your request in by this date, all exams within a 24-hour period will have to be written as scheduled. If you have two exams at the same time, you will be given four hours to write both exams. Graded final examinations will be available for supervised review at the request of the student. Please contact your instructor.

Late Policy

Over the course of term, we will be engaged in a number of projects that require both faculty-student and student-student collaboration. Often, these collaborations will culminate in assignments that will be turned for a grade. Thus, it will be vital that all parties take responsibility for their part of these activities. As your instructor, I will provide clear objectives, adequate time, and necessary assistance for completing these assignments. As students, you will be responsible for working together and managing your time such that you are prepared for due dates. This will not only help improve your grade, but also will make for a more pleasant interaction with me and your fellow students. With that said, I realize that certain circumstances prevent students from turning in individual assignments on time. I have developed the following late policy to address these situations. This late policy will apply to all lecture and laboratory assignments. However, the late policy will not cover lecture exams, the final exam, or the lab project report and presentation, all of which must be turned in on time.

Condition	Markdown
Assignment was turned in on the same calendar day* after the time it was due, or 1 calendar day after it is due	10%
Assignment is turned in 2 calendar days after it is due	20%
Assignment is turned in 3 calendar days after it is due	30%
Assignment is turned in 4 calendar days after it is due	40%
Assignment is turned in 5 calendar days after it is due	50%
Assignment is turned in >5 calendar days after it is due	100%

*Calendar days include both weekdays and weekends

Electronic Etiquette

Students are expected to treat their instructor, guest speakers, and fellow students with respect. It is disruptive to the learning goals of a course or seminar and disrespectful to fellow students and the instructor to engage in electronically-enabled activities unrelated to the class during a class session. Please TURN OFF all cell phones and other electronic devices during class. Laptops should be used for class-related purposes only. Please DO NOT use iPods, MP3 players, or headphones. Do not text, read or send personal emails, go on Facebook or other social networks, search the internet, or play computer games during class. The professor has the right to disallow the student to use a laptop in future lectures and/or to ask a student to withdraw

from the session if s/he does not comply with this policy. Repeat offenders will be directed to the Dean. If you are expecting communication due to an emergency, please speak with the professor before the class begins.

Academic Policies

It is the responsibility of all students to become familiar with and adhere to academic policies as stated in the Student Handbook and Academic Calendar. Personal information, that is information about an individual that may be used to identify that individual, may be collected as a requirement as part of taking this class. Any information collected will only be used and disclosed for the purpose for which the collection was intended. For further information contact the Privacy Compliance Officer at privacy@ambrose.edu.

Extensions

Although extensions to coursework in the semester are at the discretion of the instructor, students may not turn in coursework for evaluation after the last day of the scheduled final examination period unless they have received permission for a "Course Extension" from the Registrar's Office. Requests for course extensions or alternative examination time must be submitted to the Registrar's Office by the appropriate deadline (as listed in the Academic Calendar <http://www.ambrose.edu/publications/academiccalendar>). Course extensions are only granted for serious issues that arise "due to circumstances beyond the student's control."

Academic Integrity

We are committed to fostering personal integrity and will not overlook breaches of integrity such as plagiarism and cheating. Academic dishonesty is taken seriously at Ambrose University College as it undermines our academic standards and affects the integrity of each member of our learning community. Any attempt to obtain credit for academic work through fraudulent, deceptive, or dishonest means is academic dishonesty. Plagiarism involves presenting someone else's ideas, words, or work as one's own. Plagiarism is fraud and theft, but plagiarism can also occur by accident when a student fails or forgets to give credit to another person's ideas or words. Plagiarism and cheating can result in a failing grade for an assignment, for the course, or immediate dismissal from the university college. Students are expected to be familiar with the policies in the current Academic Calendar and the Student Handbook that deal with plagiarism, cheating, and the penalties and procedures for dealing with these matters. All cases of academic dishonesty are reported to the Academic Dean and become part of the student's permanent record.

Students are strongly advised to retain this syllabus for their records!

Course Schedule (tentative)

Month	Week	Date	Lecture Topic	Text Reading
	1			
Jan		8		
		9	Course Outline/Introduction	
		10		
	2	13		
		14	Introduction	Ch 1
		15		
		16	Chordate Origins	Ch 2
		17		
	3	20		
		21	Vertebrate Origins	Ch 3
		22		
		23	Integumentary System	Ch 6
		24		
	4	27		
		28	Skeletal System: Skull	Ch 7
		29		
		30	Program Day (no classes)	
		31		
Feb	5	3		
		4	Skeletal System: Axial Skeleton	Ch 8
		5		
		6	Exam 1	
		7		
	6	10		
		11	Skeletal System: Appendicular Skeleton	Ch 9
		12		
		13	Muscular System	Ch 10
		14		
	7	17	Family Day (no classes)	
		18	Reading Week (no classes)	
		19	Reading Week (no classes)	
		20	Reading Week (no classes)	
		21	Reading Week (no classes)	
	8	24		
		25	Muscular System	Ch 10
		26		

		27	Muscular System	Ch 10
		28		
Mar	9	3		
		4	Nervous System	Ch 16
		5		
		6	Nervous System	Ch 16
		7		
	10	10		
		11	Nervous System	Ch 16
		12		
		13	Exam 2	
		14		
	11	17		
		18	Digestive System	Ch 13
		19		
		20	Urinary System	Ch 14
		21		
	12	24		
		25	Reproductive System	Ch 14; Ch 15
		26		
		27	Respiratory System	Ch 11
		28		
Apr	13	31		
		1	Respiratory System	Ch 11
		2		
		3	Circulatory System	Ch 12
	14	4		
		7		
		8	Circulatory System	Ch 12
		9		
		10	Catchup/Final Exam Review	
	15	11		
		14		
		15		
		16		
		17	Final Exam, 1:00-4:00pm, A2141	
		18		

Lab Schedule (tentative)

Month	Week	Date	Lab Topic
Jan	1	8	
		9	
		10	
	2	13	Introduction/Phylogeny
		14	
		15	
		16	
		17	
	3	20	Skeletal System
		21	
		22	
		23	
		24	
	4	27	Skeletal System
		28	
		29	
		30	
		31	
Feb	5	3	Lab Practical 1/Muscular System
		4	
		5	
		6	
		7	
	6	10	Muscular System
		11	
		12	
		13	
		14	
	7	17	Family Day (no classes)
		18	Reading Week (no classes)
		19	Reading Week (no classes)
		20	Reading Week (no classes)
		21	Reading Week (no classes)
	8	24	Muscular System
		25	
		26	

		27	
		28	
Mar	9	3	Nervous System
		4	
		5	
		6	
		7	
	10	10	Lab Practical 2/Digestive & Urinary Systems
		11	
		12	
		13	
		14	
	11	17	Circulatory System
		18	
		19	
		20	
		21	
	12	24	Circulatory System
		25	
		26	
		27	
		28	
	13	31	Reproductive System
Apr		1	
		2	
		3	
		4	
	14	7	Lab Practical 3
		8	
		9	
		10	
		11	