

VERTEBRATE BIOLOGY

August 23, 2010

BIO 328- Fall 2010 (4 credit hours)

Location: Kettering 129 (Lect), Kettering 303 (Lab)

Time: 11-11:50 MWF (Lect), 8:50-10:40 Th (Lab)

Instructor: Dr. Mason Posner
Kettering 320
E-mail: mposner@ashland.edu
Text: (330) 421-9552
Office Hours: By appointment – can be set in class or at <http://tungle.me/masonposner>
Prerequisites: Bio 202

Course Description: This course will introduce students to the broad field of vertebrate biology. We will use vertebrate diversity as a framework for examining the ways that this group of animals has come to dominate all of the world's habitats. The course will examine anatomy, physiology, ecology, behavior and biogeography in relation to the vertebrate evolutionary story that dates back over 500 million years.

Course Objectives:

- Learn how to read and represent evolutionary relationships using phylogenetic trees
- Know the basic vertebrate body plan, its early development, and how this body plan has become modified in different vertebrate groups
- Develop an understanding of the broad scope of vertebrate evolutionary history
- Know the major groups of vertebrate taxa and how they are related to each other
- Learn specific examples of how environmental and ecological factors have affected vertebrate micro- and macroevolution
- Learn how vertebrate physiology adapts to different/changing environments
- Discover online resources in vertebrate biology
- Gain more experience in reading, interpreting and writing about the scientific literature in vertebrate biology

Grading: Your grade will depend on the following work:

Four lecture exam/quizzes. These will be given during lecture periods and will cover any material presented or discussed in either lecture or lab. They will include a mix of short answer and essay questions.

Final exam. This exam will concentrate on material from the last portion of the course. A portion of the exam will cover central themes from throughout the course.

Lab practicals. These will be hands-on exams requiring you to recognize the organisms, anatomy and techniques that we cover in lab.

Writing assignments/Blog. We will be discussing current literature in vertebrate biology during this course. You will need to read papers from the literature and come to class with computer printed answers to assigned questions. Your answers should not directly quote the reading, but should present the information in your own words. You will also be contributing to a course blog as described below.

Presentations. Each of you will give a 12-minute presentation on some current topic in vertebrate biology. You will hear more about this assignment later in the semester.

Participation. Your active participation in both lecture and lab activities will account for 30 points of your grade.

Points summary:

Lecture Exams (4 exam/quizzes @ 75 points/each)	300
Lab Practicals (2 @ 30 pts/each)	60
Final exam	75
Writing assignments (Varying points)	100
Blog posts and comments	50
Presentation	100
Participation	30
<hr/>	
Total	715

Resources and what to do with them

Course web page: www.masonposner.com. Contains links to assignments and web resources. Get in the habit of checking it often.

Textbook – There is no textbook for the course. We will be using a collection of book chapters, web resources and the primary literature in this class. Much of this material will be linked to from the course web page.

Course blog: www.ashlandanatomy.blogspot.com. We will all be contributing to a shared course blog this semester as a way to share information we discover about vertebrate biology. There is a vast amount of great online material about vertebrates because they are a heavily studied group of organisms. In this course you will learn to identify good online material and use the blog to share your interpretation of this material with the rest of the class. You will also be required to leave comments on other course member's blog posts. **Starting the second week of class you will be expected to contribute one blog post every two weeks and at least one comment each week.**

Course Policies

Attendance: 30 points of your grade will come from participation in class discussions both during lecture and lab times. Missing class will eat into these participation points.

Technology Policy: Technology mishaps are not an emergency, but a regular part of using online systems and computers. You are responsible for submitting your work in sufficient time to accommodate potential network outages or computer mishaps. Crashed computers, downed networks and virus attacks are not a valid excuse for late assignments. Save often, back up your work and be prepared (I recommend the free online web service called Dropbox – www.dropbox.com).

Excused Absences: An absence will only be excused if: 1. You have a letter from university health services or a private physician stating that you were unable to attend class for health reasons. 2. You will be travelling for a University sponsored event. This must be brought to my attention before the absence so that alternate arrangements can be made.

Late Work: Assignments submitted late due to an excused absence (see above) will be accepted on a case-by-case basis. Otherwise I will take off 10% of the total points for each day an assignment is late.

Disability Services: Students with documented disabilities who require academic adjustments for this class are requested to contact me to discuss reasonable accommodations. While not required, it is in the best interest of the student to have this conversation early in the semester. In order to receive academic adjustments paperwork from Disability Services must be provided to document this need. Disability Services is located in 105 Amstutz, extension 5953.

Academic Integrity Policy: Any student cheating on or plagiarizing an assignment will receive an “F” on that assignment, will be reported to the registrars office, and may be expelled from the University. Your student handbook defines plagiarism as follows:

“Plagiarism is the intentional or unintentional presentation of someone else's words, ideas or data as one's own work. In the event the faculty member deems the plagiarism is unintentional he/she shall typically require the student to rewrite the assignment. In the event the faculty member believes the plagiarism is willful, the sanctions in this document will apply. If the work of another is used, acknowledgment of the original source must be made through a recognized reference practice, and, if verbatim statements are included, through quotation marks as well. To assure proper crediting, a student will acknowledge the work of others:

1. Whenever one quotes another person's actual words.
2. Whenever one uses another person's idea, opinion or theory, even if it is completely paraphrased in one's own words.
3. Whenever one borrows facts, statistics, or other illustrative materials-unless the information is of such common knowledge so as not to be questioned.”

I will assume that you are knowledgeable of the definitions of plagiarism!

Note: Although it is not technically plagiarism, do not extensively quote material from primary sources in your assignments. Use your own words unless there is absolutely no other way to avoid the original words of the author.

NO DOUBLE DIPPING: Assignments done for this course cannot be used in other courses. Likewise, you cannot use assignments from other courses to fulfill requirements of this course.

DON'T BE RUDE WITH TECHNOLOGY. Avoid texting in class – take it outside to the hallway if you need to respond to something. Using a laptop in class? Stay off of non-course related material during class.

TENTATIVE COURSE SCHEDULE

Week	Topic	Lab
8/23	General overview of vertebrate evolution Phylogenies "Protochordates"	Phylogenies
8/30	"Protochordates" Vertebrate development Vertebrate development	"Protochordates"/ Development
9/6	Early fish evolution Exam/quiz 1 , Vertebrate adaptations to water Vertebrate adaptations to water	Fish anatomy
9/13	Cartilaginous fishes Cartilaginous fishes The rise of bony fishes	**Field Trip** Fish collecting
9/20	Bony fishes Bony fishes Ecology of freshwater fishes	ID of local fishes
9/27	Exam/quiz 2 , Living on land Origin of tetrapods	ID of local fishes
10/4	Modern amphibians Modern amphibians Modern amphibians	Lab Practical 1/ Amphibians
10/11	Evolution of amniotes What is a turtle? Reptiles	Amphibians and Reptiles
10/18	**No Class – Fall Break** Reptiles Exam/quiz 3 , Reptiles	Reptiles
10/25	Vertebrates and ectothermy Vertebrates and ectothermy Crocs/dinosaurs	**Field Trip** Cleveland Metropark Zoo
11/1	Dinosaurs Dinosaurs/rise of bird Evolution of flight	**Frog call quiz**/Birds

Week	Topic	Lab
11/8	Exam/quiz 4 , Evolution of flight Evolution of flight Birds	Presentations
11/15	Presentations Mammals Mammals	Mammals
11/22	Primates **Thanksgiving Break – no class**	**No Lab**
11/29	Primates Human evolution Human evolution	Lab Practical 2

FINAL EXAM/QUIZ: Monday, December 6th, 10:30 am -12:30 pm

What to do if you have a question:

- **Ask it in class or lab**
- **Email me – I will generally get back to you that day**
- **Do you need an immediate answer?**
 - **Try the chat link on the course site**
 - **Text me**
- **Want to start a discussion with your question?**
 - **Post it to the course blog**

Academic Integrity Policy: Any student cheating on or plagiarizing an assignment will receive an “F” on that assignment, will be reported to the registrars office, and may be expelled from the University. Your student handbook defines plagiarism as follows:

“Plagiarism is the intentional or unintentional presentation of someone else's words, ideas or data as one's own work. In the event the faculty member deems the plagiarism is unintentional he/she shall typically require the student to rewrite the assignment. In the event the faculty member believes the plagiarism is willful, the sanctions in this document will apply. If the work of another is used, acknowledgment of the original source must be made through a recognized reference practice, and, if verbatim statements are included, through quotation marks as well. To assure proper crediting, a student will acknowledge the work of others:

1. Whenever one quotes another person's actual words.
2. Whenever one uses another person's idea, opinion or theory, even if it is completely paraphrased in one's own words.
3. Whenever one borrows facts, statistics, or other illustrative materials-unless the information is of such common knowledge so as not to be questioned.”