

# BIOL3010: COMPARATIVE ANATOMY

## FALL 2013

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### Professor:

**Dr. Wendy Hood**

**Office:** Rouse 312; **Phone:** 334-844-7437

**Office Hours:** after class or by appointment

**Email:** Please use Canvas for all course related correspondence  
All other correspondence, [wrhood@auburn.edu](mailto:wrhood@auburn.edu)

**Class webpage:** Canvas BIOL-3010-00X F 2012

### GTA's

**Keith Ray**, [rayclif@auburn.edu](mailto:rayclif@auburn.edu)

**Sam Hirt**, [hirtsam@auburn.edu](mailto:hirtsam@auburn.edu)

**Malorie Hayes**, [Malorie.Hayes@auburn.edu](mailto:Malorie.Hayes@auburn.edu)

### UTA's

**Rachael Spurrier, Joe Bradsher**

### Lecture:

T & R 8:00-9:15 PM      Chemistry Building 151

### Labs:

T 3:30-6:15 PM, SCL 408, sec. 001      F 1:00-3:45 PM, SCL 408, sec. 003  
R 3:30-6:15 PM, SCL 408, sec. 002      T 6:30-9:15 PM, SCL 408, sec. 004

**Prerequisites:** BIOL 1030 or 1037

### The goals of this class:

By the end of this course, you should be able to intelligently address the following questions:

- What is the inferred evolutionary history of vertebrates and their organ systems?
- How does evolutionary history and environment impact the form and function of organ systems?
- What are the components of the major organ systems in vertebrates? What are the functions of these structures?
- Based on form and what you know of vertebrate evolutionary history, you should be able to apply what you have learned to unfamiliar vertebrate systems and use that knowledge to make predictions

### Textbooks & Clicker:

- i>Clicker 2. *Required*

- Kardong, K. 2011. Vertebrates, Comparative Anatomy, Function, Evolution. 5<sup>th</sup> edition. McGraw-Hill Publishers. *Recommended*
- Shubin, N. 2008 Your Inner Fish. Knopf Doubleday Publishing Group. *Recommended*
- De Iuliis, G. and D Pulera. 2010. Dissection of Vertebrates. 2<sup>nd</sup> edition. Academic Press. *Required*

**Other supplies:**

- Dissection tools for lab – including scalpel, scissors, forceps, and probe - *Required*
- Colors pencils – valuable for drawing figures in your notes - *Suggested*

**Course format and performance evaluation:**

Your grade for this course will be based on your performance on 3 lecture exams and a cumulative final on lecture material, lecture participation, 3 lab practical exams, and your performance on the lab diversity assignment.

**The final for this class is schedule for Tues, Dec 10<sup>th</sup> 8AM-10:30AM.**

Lecture exams and the final are each worth 100 points. Lecture exams and the final may include any of the following – phylogenies, definitions, matching, multiple choice, short answer, and/or essay questions. To prepare for lecture exams, come to class, read the corresponding sections of the book, and review the learning objectives for each topic. The exams will only cover material presented in class. On the day of the final, everyone will take the cumulative final which will be designed to take ~1 h to complete. In addition, a 4<sup>th</sup> non-cumulative lecture exam will also be given. This exam will also be designed to take ~1 h to complete. This exam will cover the material from the last lectures of the semester that you have yet to be tested on. You're lowest score on a lecture exam will be dropped. If you are happy with your prior scores – you are welcome to skip the 4<sup>th</sup> exam but not the final.

25 points of your grade will be based on class participation. i>clickers will be used in class to tie lab and lecture material and evaluate your understanding of concepts in real time. At the end of the semester, students who participate in >80% of all in class clicker questions will receive 25 points. Those that participate in 71-80% of all clicker questions will receive 20 points, 61-70% will receive 15 points, 51-60% will receive 10 points, 25-50% will receive 5 points, and anyone participating in less than 25% of questions will not receive any participation points. By giving full credit to students missing up to 19.9% of the questions, the grading strategy allows for a few missed days due to absence or forgetting your clicker. No excuses, medical or otherwise, will be accepted for these points.

In addition, to encourage everyone to come to class on time, bonus points will be assigned based on attendance and time of arrival. Those who log in with their clicker before 8AM for more than 85% of classes will receive 15 bonus points that will be added to your grade at the end of the semester. Those that log in before 8AM 85-66% of the time will receive 10 bonus points, and those that log in before 8AM 65-50% of the time

will receive 5 points. Those that log in before 8AM less than 50% of the time will not get bonus points. Time will be based on the atomic clock – check the atomic clock on the web to see if you phone or watch displays accurate time. No excuses, medical or otherwise, will be accepted for these points.

In lab, you will be dissecting a shark, mudpuppy, and cat and learn to identify anatomical structures as you go. Lab practical exams will require you to identify the anatomical structures on the animals that your class has reviewed and dissected. All practicals are worth 50 points. In addition, there will be a diversity dissection assignment at the end of the semester that is worth 25 points.

No other sources of additional credit will be available – don't ask.

### **Grading Scheme:**

A  $\geq$  90.0, B = 80.0-89.9, C = 70.0-79.0, D = 60.0-69.9, F  $\leq$  59.9. All scores will be rounded up from 0.5.

<b>Assessment</b>	<b>Points</b>	<b>% Final Grade</b>
Lecture exams (3)	100 ea * 3 = 300	50.0%
Lecture final (1)	= 100	16.6%
Lab practicals (3)	50 ea * 3 = 150	25.0%
Lab diversity project	= 25	4.2%
i>clicker participation	= 25	4.2%
Total	= 600	

### **The laboratory:**

Attending laboratories is mandatory. Please refer to the Tiger Cub for the definition of an excusable absence. [http://www.auburn.edu/student\\_info/student\\_policies/](http://www.auburn.edu/student_info/student_policies/)

You must wear close-toed shoes in lab. Most of the specimens we examine will either have their own distinct smell or will be saturated with pungent preservatives. Oils or chemicals from the animals may get on your clothing. You may want to take this into consideration when choosing attire on the days you are in the lab. Feel free to bring a lab coat to protect your clothing.

In lab, you are free to complete dissections and study structures at your own pace. However, it is imperative that completing dissections is a team effort. Leaving lab early will be treated as an absence. TAs will announce when it is ok to sign out. You will lose 10 points for every 2 unexcused lab absences.

You will work in groups of six in the lab and each group will be divided into 3 dissection teams. One team will dissect the shark, one the mudpuppy, and one the cat for material on the second exam (no dissections are required for the first exam), assignments rotate for material that will be on the third exam so that each team contributes the dissection of 2 animals. Each team will teach the others the structures they have dissected.

The final lab assignment, the diversity dissection, will ask you to apply the skills that you have acquired throughout the semester to a new vertebrate. You will be asked to identify anatomical structures and create a dissection guide for a vertebrate that your group is assigned. This assignment will be completed in the last 2 weeks of class. The specific requirements of the assignment will be posted on Canvas. The diversity dissection is worth 25 points.

You will have the privilege of working on and studying specimens when the laboratory is open and there are no other courses in the lab. You will be given ID card access to the room. In fall 2013, Vertebrate Biodiversity and Herpetology will also be using SCL408. Open lab times will be posted on the dry erase board in the lab. Note, there may be some modifications made to these times each week to accommodate prep for each lab. Unfortunately, the building is not open on the weekend. The open lab privilege will be revoked if any student fails to clean up after they have finished or if any student attempts to take specimens home.

### **Canvas:**

Canvas will be used for posting PowerPoint presentations and your grades. In addition, we will add links to valuable resources that will help you to learn the material and links of general interest for those who want to learn more about anatomy and vertebrate biology. Grades for each exam and practical will be posted on Canvas. It is your job to monitor your performance throughout the semester and make necessary adjustments to achieve the grade that you desire.

### **Missing exams and practicals:**

Make up exams and practicals will not be given unless a physician's note indicates that you had an incapacitating illness on the day of the exam. Official university business that conflicts with the exam will also be honored if the student calls attention to the business in advance of the exam and if the business can be adequately documented. **If you are ill, contact Dr. Hood by email BEFORE the exam begins.** A doctor's note confirming the severity of your illness must be brought or emailed to Dr Hood within 24h of the scheduled exam. All make-ups must be completed within 3 days of the scheduled exam. If you do not contact Dr. Hood before the exam and/or you cannot adequately document your excuse for the absence, you will be given a zero on the exam. NO EXCEPTIONS.

If you have questions regarding how your exam was graded, please email Dr. Hood within 7 days of receiving your graded exam and within 24 hours of receiving your score on the final. Final exams will be available in her office to review. She will not consider changing anyone's score after these time limits. In the email requesting reconsideration, please include the number of the question you have concerns about, what you put for your answer, and why you think your score did not adequately reflect your performance on the question. Dr. Hood will ask you to bring the exam to her after class or to her office to confirm the accuracy of the email before any changes are made.

**Academic dishonesty:**

In accordance with Auburn University policy, all violations of the academic honesty code will be reported to the University Academic Honesty Committee. Please see the Tiger Cub, Academic Affairs I, 1. – SGA code of laws, title XII. Academic dishonesty can result in a failing grade, suspension, and/or expulsion from the University. Please be aware that turning in an excuse that is not true for a missed lab or exam is considered a violation of this code.

**Students with Disabilities:**

Students who need special accommodations should make an appointment to discuss their situation confidentially with Dr Hood. Please bring your memo from the Program for Students with Disabilities (PSD) to Dr Hood as soon as possible. Exam accommodations should be arranged at least one week in advance.

### TENTATIVE SCHEDULE

Date	Lecture	Reading Kardong (chapters)	Lab (see structure lists on canvas for readings)
22-Aug-13	Introduction - 01	1	
27-Aug-13	Evolution & Phylogeny - 02	1	Vertebrae
29-Aug-13	Vertebrate Taxonomy - 03	2-3	
3-Sep-13	Vertebrate Taxonomy - 03	2-3	Skull
5-Sep-13	Development - 04	5	
10-Sep-13	<b>Exam 1 (topics 01-03)</b>	---	Post-cranial Skeleton
12-Sep-13	Development - 04	5	
17-Sep-13	Integument - 05	6	<b>Exam 1</b>
19-Sep-13	Integument - 05	6	
24-Sep-13	Feeding - 06	4, 7, 10	Muscles
26-Sep-13	Feeding - 06		
1-Oct-13	Feeding - 06	4, 7, 10	Muscles
3-Oct-13	Feeding - 06	4, 7, 10	
8-Oct-13	Locomotion - 07	4, 8, 9, 10	Digestive, Respiratory, & Urogenital systems
10-Oct-13	<b>Exam 2 (topics 04-06)</b>	---	
15-Oct-13	Locomotion - 07	4, 8, 9, 10	<b>Exam 2</b>
17-Oct-13	Locomotion - 07	4, 8, 9, 10	
22-Oct-13	Locomotion - 07	4, 8, 9, 10	Circulatory system
24-Oct-13	Locomotion - 07	4, 8, 9, 10	
29-Oct-13	Digestive System – 08	13	Circulatory system
31-Oct-13	Digestive System – 08	13	
5-Nov-13	Respiratory & Circulatory Systems - 09	11, 12	Brain, Eye, & Cranial nerves,
7-Nov-13	<b>Exam 3 (topics 07-08)</b>	13	
12-Nov-13	Respiratory & Circulatory Systems - 09	---	<b>Exam 3</b>
14-Nov-13	Respiratory & Circulatory Systems - 09	13	
19-Nov-13	Urogenital System - 10	14	<b>Lab project</b>
21-Nov-13	Urogenital System - 10	14	
26-Nov-13	<b>Thanksgiving week</b>		
28-Nov-13			
3-Dec-13	Nervous & Sensory Systems - 11	16, 17	<b>Lab project due Dec 6</b>
5-Dec-13	Nervous & Sensory Systems - 11	16, 17	
<b>10-Dec-13</b>	<b>Exam 4 (topics 09-11), Final</b>		