BIOL3010: COMPARATIVE ANATOMY, FALL 2018

Lecture: T & R, 2:00-3:15 PM, Rouse Life Science Building 112, 3 credits

INSTRUCTIONAL TEAM:

Professor:

Dr. Wendy Hood
Office: Rouse 315; **Phone**: 334-844-7437 **Office Hours:** after class or by appointment
Email: ***Please use Canvas for all course-related correspondence*** Other correspondence, wrhood@auburn.edu
Class webpage: Canvas BIOL-3010-00X F 2018

GTA's

Malorie Hayes, malorie.hayes@auburn.edu
Cori Black, crb0083@auburn.edu

LAB:

Register for the lab for this course independently. The course number is BIOL3011. You will receive independent grades for lab and lecture.

Concurrent enrollment in the lab for this class is ***strongly recommended.*** In-class activities and lectures will refer to material covered in the lab. Students who have not taken the lab or who are not currently enrolled will benefit from carefully reviewing the anatomical structures that students learned in lab before the topic is covered in lecture.

Lab meeting times are as follows:

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

SUPPLIES NEEDED:

- Kardong, K. 2011. Vertebrates, Comparative Anatomy, Function, Evolution. 5th edition. McGraw-Hill Publishers. *Strongly recommended.*
- Shubin, N. 2008 Your Inner Fish. Knopf Doubleday Publishing Group. *Recommended*
- De Iuliis, G. and D Pulera. 2010. Dissection of Vertebrates. 2nd edition. Academic Press. Required for lab and recommended preparation for students not taking the lab.
- Laptop or smartphone.

COURSE POLICIES, IN BRIEF – A QUICK REFERENCE:

- Students should use **Canvas for** all course-related **emails.**
- Students **must be in class to receive participation points**. Students may miss up to 24% of participation points and still get full credit for participation. This policy allows students to miss a day occasionally. No excuses will be accepted for missing participation points.
- Students must **sign up for Top Hat** and **bring a smartphone or laptop to class**.
- Exams are given in class on the day listed in the schedule. **Exams** will be delivered online, and thus, you will need to **bring your laptop to each exam**.

COURSE POLICIES, IN BRIEF – A QUICK REFERENCE (CONTINUED):

- Students who are ill or have a family emergency and cannot make it to an exam must:
    1. **Email Dr. Hood BEFORE the exam** is scheduled to begin.
    2. Make arrangements to take the exam within 3 business days of the exam
- Students that require special accommodations for exams or have university approved excuse for missing an exam should make arrangements with Dr. Hood 1 week before each exam.

COURSE FORMAT:

This course meets bi-weekly. Course material will be presented in an interactive lecture format. Students will be expected to prepare for each new topic by reviewing new terminology and reading any papers that are posted from the primary literature. They will then be asked to complete an online quiz on Canvas that confirms that they have prepared. In lecture, concepts will be presented by professor and students will be asked to assist by sharing their knowledge. Students will be invited to participate in the lecture by working in small assigned groups and/or answering questions on Top Hat.

Prerequisite: BIOL 1030 or 1037

COURSE MANAGEMENT TOOLS:

Canvas will be used for:

- presenting the learning objectives for each topic
- listing terms, you should look up before we begin each topic
- posting any additional required reading
- administering quizzes on terms and reading
- posting lecture PowerPoints (after the lecture)
- posting your grade

The professor and GTA's review all posted grades carefully, but we occasionally make mistakes. It is the student's job to monitor their performance throughout the semester. If a score appears to be incorrect, please let us know immediately. By monitoring their grade, the student will have the opportunity to make necessary adjustments to their study practices to achieve the grade that they desire. In addition, a list of valuable web pages and books will be posted. These references may help students to make up deficiencies in their preparation, reinforce that material covered in class, and provide a springboard for learning more.

Top Hat will be used as our online response system in class.

- Students should sign up at tophat.com. Click on 'Sign Up' in the upper-right corner. Then, click on 'I am a student'. Sign up for access for 6 months. The cost of signing up for 1 term is $22. Follow the directions on the webpage to make a payment.
- Students should bring your smartphone or laptop to class. When you arrive in class, go to the Hop Hat webpage or app, sign in, and click on our course to get started.
- **If the app or internet is not working** during class, students should take out a piece of paper, put his/her name on it, and **record the answers on the paper**. Students should turn in that paper to Dr. Hood in at the end of class.
- At the end of class, students confirm that TopHat recorded your responses.

LEARNING OBJECTIVES:

The Department of Biological Sciences has developed a set of Student Learning Outcomes (SLOs) for majors in the department. These describe the knowledge, skills, and abilities that we expect of our students once they graduate with a biology degree From Auburn. This course contributes the following learning objectives within the Department of Biological Sciences:

- Students will be able to apply broad knowledge of the *structure, function, and diversity of organisms to illustrate how ecological and evolutionary processes have shaped organisms at* the individual, *population*, community, and ecosystem *levels*. Students will have skills related to behavior, physiology, biodiversity, systematics, evolution, ecology, and/or conservation research (Organismal Biology SLO 8).
- Students will be able to *use biological evidence in a comparative framework to explain how the theory of evolution offers a comprehensive scientific explanation for the unity and diversity of life on Earth*. They will be able to *use specific examples to demonstrate how evolution has shaped organismal morphology*, physiology, life history, and behavior (SLO 7).

The overarching learning objectives for this course are listed below. In addition, specific learning objective for each will be provided on Canvas. These are the guidelines that Dr. Hood uses when she selects what material to emphasize in lecture and guide she uses when she decides what to include on exams. She strongly ***recommends that students the learning objectives for each topic as they study guide***. A way to prepare for the exams is to review the learning objective and try to anticipate the questions she will ask. Then, make sure you can answer those predicted questions.

- Students will be able to describe the evolutionary history of the major vertebrate lineages and their organ systems.
- The student will be able to identify and provide examples of how evolutionary history and environment impact the form and function of organ systems
- Students will become conversant in the language of comparative anatomy.
- Based on material learned in lab, students will be able to identify key structures of the major organ systems of the shark, mudpuppy, and cat.
- Based on what students have learned about structure and patterns of evolution in vertebrates, students will be able to apply what they have learned to the identification of anatomical structures of an unfamiliar vertebrate and use their knowledge to make predictions about the evolutionary history of that unknown animal.

PERFORMANCE EVALUATION:

Student's final grade for this course will be based on your performance on 3 lecture exams and a cumulative final on lecture material, online quizzes, and lecture participation

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, and/or short answer questions. To prepare for lecture exams, students should come to class, read the corresponding sections of the book, and review the lecture outline for each topic. The exams will only cover the material presented in class. At the final exam, everyone will take the cumulative final which will be designed to take ~1 h to complete. In addition, a 4th 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. Each student's lowest score on a lecture exam will be dropped. If a student is happy with his/her previous scores – he/she is welcome to skip the 4th exam but not the final.

25 points of each student's grade will be based on weekly multiple-choice quizzes. Many of the evolutionary and anatomical terms used in lecture and on exams will be new to the students in the class. Quizzes associated with each topic will help students to learn many of those key terms before they are used in lecture. Students will find these terms in Canvas. Students should look up the definitions of these terms in the textbook, record the definition for reference, and then take the quiz. In addition, several topics will also have a short paper from the primary literature for review before the lecture. When this is the case, ~2 quiz questions will be based on that article. There will be 1 quiz to complete most weeks, with 1 quiz for most of the topics we cover. The longer *Feeding* and *Locomotion* topics will each have 2 quizzes. See Canvas for more information when quizzes open and close. Each quiz will be worth 6-10 points. The total number of quiz points that will be applied to the student's final grade will be based on the percent correct for the full semester multiplied by 25.

25 points of each student's grade will be based on class participation. Many of these activities will be associated with work in assigned groups. Top Hat will be used in class to tie lab material to lecture and to evaluate student understanding of concepts in real-time. At the end of the semester, students who participate in >75.0% of all in class questions will receive 25 points. Those who participate in 65.1-75.0% of all questions will receive 20 points, 55.1-65.0% will receive 15 points, 45.1-55.0% will receive 10 points, 35.1-45.0% will receive 5 points, and anyone participating in less than or equal to 35.0% of questions will not receive any participation points. By giving full credit to students missing up to 24.9% of the questions, the grading strategy allows for a few missed days due to absence. ***No excuses, medical or otherwise, will be accepted for these points.***

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

Grading Scheme:
A ≥ 90.0, B = 80.0-89.9, C = 70.0-79.0, D = 60.0-69.9, F ≤ 59.9. All final scores will be rounded up from 0.5.

Assessment	Points	% Final Grade
Lecture exams (3)	100 ea * 3 = 300	66.6%
Lecture final (1)	= 100	22.2%
Quizzes	= 25	5.6%
Participation	= 25	5.6%
Total	= 450	100.0%

TIPS FOR DOING WELL

Students should:

- Review the given terminology before the lecture and complete the quiz
- Come to class
- Be an engaged and active learner
- Stay on top of the material - review material every/most days
- Anticipate questions on exams

- Adjust study habits early. Review any exam that you are unhappy with and look for patterns in the errors you make and correct the way you study accordingly.

COURSE POLICIES, IN DETAIL:

Missing lecture exams and lab practical exams:

Makeup lecture exams and lab practical exams will not be given unless a physician's note indicates that the student 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 a student is ill, he/she must 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 doctor's notes will be verified.*** All make-up exams must be completed within 3 days of the scheduled exam. If the student does not contact Dr. Hood before the exam and/or cannot adequately document the reason for the absence, the student will be given a zero on the exam. NO EXCEPTIONS. Students should refer to the student handbook for a description of acceptable reasons for missing an exam and appropriate documentation to provide.

If a student has questions about how their exam was graded, he/she should talk to Dr. Hood after class or email her within 7 days of receiving his/her graded exam. If a student has questions about how their final was graded, he/she should talk to Dr. Hood within 24 hours of receiving their score on the final. Dr. Hood will not consider changing anyone's score after these time limits.

Academic dishonesty:

Auburn University and Comparative Anatomy have a NO TOLERANCE for academic dishonesty. Measures will be taken to prevent cheating. Following Auburn University policy, ***all violations of the academic honesty code will be reported to the University Academic Honesty Committee***. Students should refer to 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. Students should be aware that turning in a falsified document for missing an 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. Exam accommodations should be arranged one week in advance.