Comparative Vertebrate Anatomy – BIOL 4300
Fall Semester, 2021
CRN – 85013 (section A)
Instructor - Dr. J. Mitchell Lockhart
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Office Hours: Monday 9:50-11:00, Tuesday 8:00-9:30, Wednesday 10:00-12:00 or by appointment
Course hours: Lecture – Monday, Wednesday, Friday 9:00-9:50 AM, BCB 1202
Laboratory – Monday, 11:00 AM – 1:50 PM, BCB 2071
Textbook - Kent and Carr, Comparative Anatomy of the Vertebrates, Ninth Edition, (**Suggested**)
Laboratory Textbook - Fishbeck and Sebastiani, Comparative Anatomy – Manual of Vertebrate Dissection (Third Edition) (**Required**)
Dissection Kit (**Required**)
Specimens (**PROVIDED**)
Course Objectives: As stated in your handbook, this course involves an anatomical and phylogenetic survey of representative vertebrate animals. We will cover objectives in more depth during the first few lectures.
Attendance: **MANDATORY**! I do keep track of who is and isn't attending lecture and laboratory. This course has a considerable amount of new concepts and terminology and it serves your best interest to attend class regularly. Any student disrupting the classroom and affecting the learning experience of others will be asked to leave. Along these lines, **NO** cell-phones, beepers, and/or associated earpieces or headphones are allowed either in the **lecture room or laboratory**. If you bring them to class, they must be turned off (**not on vibrate**) and placed **out of view**. Students are not permitted to leave the lecture or laboratory rooms to receive messages during regular course time. My policy is not to give a warning, rather, if a cell-phone or beeper activates during lecture/laboratory or you attempt to view or send messages, **you will lose one LETTER GRADE from your final grade**. Viewing a cell-phone or pager that activates on "silent" mode during a quiz or exam will be treated as an instance of **CHEATING** and handled accordingly (**in addition to the above penalty**). Those wishing to utilize laptop computers as part of the class are required to sit in the first 2 rows of the classroom. Viewing any material other than class material will result in the same penalties above. University guidelines dictate that students missing 20% of lecture or laboratory sessions for this class are subject to receiving a grade of "F" regardless of their standing in the course.
Students With Documented Disabilities: Students requiring accommodations or modifications because of **documented** disabilities should discuss this need with Dr. Lockhart at the beginning of the semester. Students with disabilities who are experiencing barriers in this course may contact the Access Office for assistance in determining and implementing reasonable accommodations. The Access Office is located in Farber Hall. The phone numbers are 229-245-2498 (V), 229-375-5871 (VP) and 229-219-1348 (TTY). For more information, please visit VSU's Access Office or email: access@valdosta.edu.
Grades: For the lecture grade, three exams (tentative) plus a comprehensive final will be given. Questions will be based on both material covered in lecture and reading material assigned in class. Exam questions will be in a variety of formats including (but not limited to) essay, short answer, multiple choice, fill in the blank, drawings, etc...Any

questions concerning grading should be brought to the attention of the instructor **NO LATER** than one week following return of the exam. **NO make-up exams will be given**.

For the laboratory grade, 3 lab practicals (tentative) will be given. The **Lab practicals cannot be made up. If a lab practical is missed, you will receive a zero for that lab grade.**

The final grade will be a combination of your lecture exam score, laboratory exam score, final exam score, and dissection project:

Lecture Exam 1, 2, and 3 –	40% (each worth equal)
Lab Exam 1, 2, 3 –	30% (each worth equal)
Dissection Project	15%
Comprehensive Final Exam -	15%

Grade Scale: 90-100 = A, 80-89 = B, 70-79 = C, 60-69 = D, <60 = F

Privacy Act: Because of the Buckley Amendment or Privacy Act, grades will not be discussed over the phone, given to friends, or given to relatives. Grades will be posted in Blazeview where you will have ready access to them.

Cheating: Refer to the Student Code of Ethics in the Valdosta State University Student Handbook. A student caught cheating will be penalized ranging from receiving a zero for that assignment or test to failing the class.

Title IX: Valdosta State University (VSU) is committed to creating a diverse and inclusive work and learning environment free from discrimination and harassment. VSU is dedicated to creating an environment where all campus community members feel valued, respected, and included.

Valdosta State University prohibits discrimination on the basis of race, color, ethnicity, national origin, sex (including pregnancy status, sexual harassment and sexual violence), sexual orientation, gender identity, religion, age, national origin, disability, genetic information, or veteran status, in the University's programs and activities as required by applicable laws and regulations such as Title IX. The individual designated with responsibility for coordination of compliance efforts and receipt of inquiries concerning nondiscrimination policies is the University's Title IX Coordinator: Maggie Viverette, Director of the Office of Social Equity, titleix@valosta.edu, 1208 N. Patterson St., Valdosta State University, Valdosta, Georgia 31608, 229-333-5463.

Cheating: Refer to the Student Code of Ethics in the Valdosta State University Student Handbook. A student caught cheating will be penalized ranging from receiving a zero for that assignment or test to failing the class.

Student Opinion of Instruction Statement: At the end of the term, all students will be expected to complete an online Student Opinion of Instruction survey (SOI) that will be available through SmartEvals. Students will receive an email notification through their VSU email address when the SOI is available (generally at least one week before the end of the term). SOI responses are anonymous to instructors/administrators, and they will be able to access results only after they have submitted final grades. Before final grade submission, instructors will not be able to see any responses, but they can see the percentage of students who have or have not completed their SOIs. While instructors will not be able to see student names, an automated system will send a reminder email to those who have yet to complete their SOIs. Students who withdraw or drop a course will also be sent invitations to complete the Dropped Course Survey.

Complete information about the SOIs, including how to access the survey, is available on the SOI Procedures webpage.

Coronavirus Resources: VSU cares about student success both on and offline, and a variety of resources are available to help students both academically and personally during the Fall 2020 semester.

One of the best resources is VSU's Coronavirus FAQ page located at https://www.valdosta.edu/health-advisory/faq.php. Information is available there about a variety of topics in VSU's return-to-campus plan. A website devoted to the health and wellness of VSU students can be seen at https://www.valdosta.edu/administration/finance-admin/campus- wellness/student-resources.php.

You can find information, including how you can access the Brightspace Pulse app that will allow you to view BlazeVIEW on your smartphone at https://www.d2l.com/products/pulse/. In BlazeVIEW, all VSU students have a course with guides for how to use tools in BlazeVIEW; search for "VSU BlazeVIEW Student Tutorial 2020."

Face Coverings: As the Blazer Creed articulates, members of the VSU community are expected to live by the high standards of civility, integrity, and citizenship and embrace their responsibility as a member of the Blazer community. In recognition of this responsibility, and in response to the best available science and current guidance from the Centers for Disease Control and Prevention and the Georgia Department of Public Health, while face coverings are no longer required, individuals are strongly encouraged to continue wearing a face covering indoors. Unvaccinated individuals are strongly encouraged to get vaccinated. Vaccines remain available at no cost for all members of the university community by appointment at Student Health Services. For COVID Vaccines, please call ahead for an appointment at 229-333-5886.

Virtual Proctored Exams:

USING LOCKDOWN BROWSER AND A WEBCAM FOR ONLINE EXAMS

This course requires the use of LockDown Browser and a webcam for online exams. The webcam can be built into your computer or can be the type that plugs in with a USB cable. Watch this short video (http://www.respondus.com/products/lockdown-browser/student-movie.shtml) to get a basic understanding of LockDown Browser and the webcam feature. A student Quick Start Guide (http://www.respondus.com/products/monitor/guides.shtml) is also available.

Important Dates: Midterm – October 7; Final Exam – Friday, May 10, 8:00AM - 10:00 AM

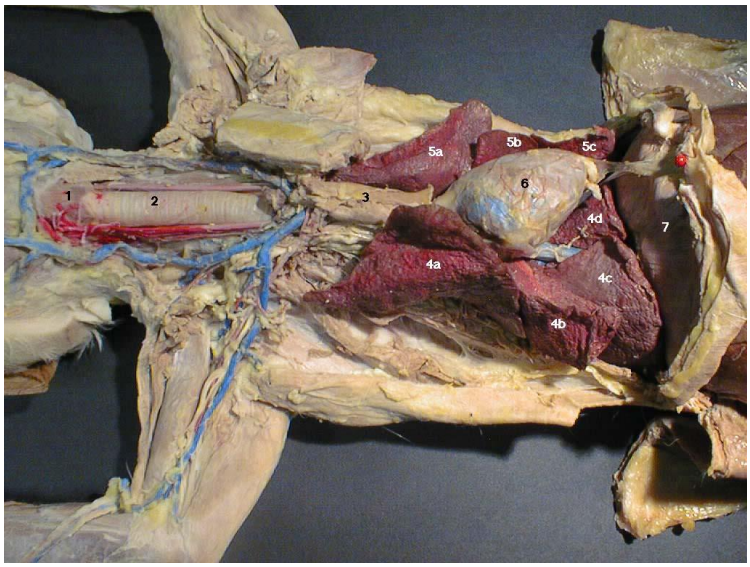
* The Instructor reserves the right to modify the contents of this syllabus with proper notification.

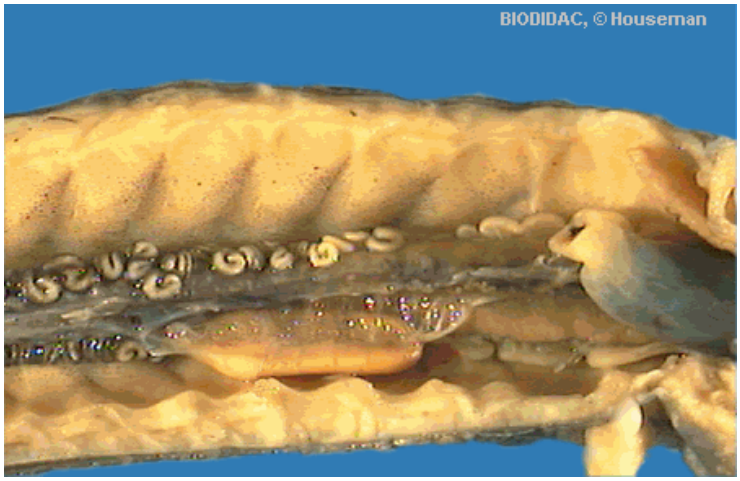
DISSECTION ASSIGNMENT

You will work in groups of **TWO**, with the partner you have in lab, to prepare a powerpoint chronology of the dissections you are performing. This will stimulate you to do excellent, meticulous dissections in the laboratory. I want each group to take digital photographs of their dissections, import them into powerpoint, and label all parts that you are required to learn in the laboratory. Label anatomical parts clearly within powerpoint with either NUMBERS or LETTERS. Then on the following powerpoint slide, provide a key for the previous photograph.

You are not required to do this for the lamprey (it will be a bonus point opportunity), but I do want photographs of the mudpuppy, shark, and cat. Your laboratory guide gives you an EXCELLENT reference and should you come anywhere close to the quality found in the lab guide, you will do well on the project.

This project will be due on Monday, December 6 at **NOON**. You will turn in a CD or jump drive copy of your project that I CAN OPEN on my computer.





Course Outcomes:

Course:

By the end of BIOL 4300, students who successfully complete the course should have:

1. Gained factual knowledge, to include anatomy and physiological terminology, methods, and principles, about Comparative Vertebrate Anatomy. (DO – 2,3,5; VSUGEO – 5)
2. Learned fundamental principles, generalizations, or theories of Comparative Vertebrate Anatomy. (DO – 2,3,5; VSUGEO – 5)
3. Learned to apply course material (to improve thinking, problem-solving, and decisions) in Comparative Vertebrate Anatomy. (DO – 2,3,5; VSUGEO – 5)
4. Developed specific skills, competencies and points of view needed by professional in the fields most closely related to Comparative Vertebrate Anatomy. (DO – 2,3,5; VSUGEO – 5)
5. Acquired an interest in learning more by asking questions and seeking answers about Comparative Vertebrate Anatomy. (DO – 2,3,5; VSUGEO – 5)

Department:

1. Develop and test hypotheses, collect and analyze data, and present the results and conclusions in both written and oral formats used in peer-reviewed journals and at scientific meetings.

2. Describe the evolutionary processes responsible for biological diversity, explain the phylogenetic relationships among the major taxa of life, and provide illustrative examples.

3. Demonstrate an understanding of the cellular basis of life.

4. Relate the structure and the function of DNA/RNA to the development of form and function of the organism and to heredity.

5. Interpret ecological data pertaining to the behavior of the individual organism in its natural environment; to the structure and function of populations, communities, and ecosystems; and to human impacts on these systems and the environment.

Valdosta State University General Education Outcomes:

1. Students will demonstrate understanding of the society of the United States and its ideals. They will possess the requisite knowledge of the society of the United States, its ideals, and its functions to enable them to become informed and responsible citizens. They will understand the connections between the individual and society and the roles of social institutions. They will understand the structure and operational principles of the United States government and economic system. They will understand United States history and both the historical and present role of the United States in the world.

2. Students will demonstrate cross-cultural perspectives and knowledge of other societies. They will possess sufficient knowledge of various aspects of another culture, including the language, social and religious customs, aesthetic expression, geography, and intellectual and political history, to enable them to interact with individuals within that society from an informed perspective. They will possess an international viewpoint that will allow them to examine critically the culture of their own nation and to participate in global society.

3. Students will use computer and information technology when appropriate. They will demonstrate knowledge of computer concepts and terminology. They will possess basic working knowledge of a computer operating system. They will be able to use at least two software tools,

such as word processors, spreadsheets, database management systems, or statistical packages. They will be able to find information using computer searching tools.

4. Students will express themselves clearly, logically. and precisely in writing and in speaking, and they will demonstrate competence in reading and listening. They will display the ability to write coherently in standard English; to speak well; to read, to understand, and to interpret the content of written materials in various disciplines; and to listen effectively and to understand different modes of communication.

5. Students will demonstrate knowledge of scientific and mathematical principles and proficiency in laboratory practices. They will understand the basic concepts and principles underlying scientific methodology and be able to collect, analyze, and interpret data. They will learn a body of scientific knowledge and be able to judge the merits of arguments about scientific issues. They will be able to perform basic algebraic manipulations and to use fundamental algebraic concepts to solve word problems and equations. They will be able to use basic knowledge of statistics to interpret and to analyze data. They will be able to evaluate arguments based on quantitative data.

6. Students will demonstrate knowledge of diverse cultural heritages in the arts, the humanities, and the social sciences. They will develop understanding of the relationships among the visual and performing arts, literature and languages, and history and the social sciences. Students will be versed in approaches appropriate to the study of those disciplines; they will identify and respond to a variety of aesthetic experiences and engage in critical thinking about diverse issues. They will be able to identify the components of and respond to aesthetic experiences in the visual and performing arts. They will develop knowledge of world literature within its historical and cultural frameworks. They will understand modem issues within a historical context and the role of the individual in various forms of societies and governments.

7. Students will demonstrate the ability to analyze, to evaluate, and to make inferences from oral, written. and visual materials. They will be skilled in inquiry, logical reasoning, and critical analysis. They will be able to acquire and evaluate relevant information, analyze arguments, synthesize facts and information, and offer logical arguments leading to creative solutions to problems.

8. Students will demonstrate knowledge of principles of ethics and their employment in the analysis and resolution of moral problems. They will recognize and understand issues in applied ethics. They will understand their own value systems in relation to other value systems. They will judge values and practices in a variety of disciplines.

BIOL 4300 – Comparative Vertebrate Anatomy
Fall Semester, 2019
Dr. J. Mitchell Lockhart

Tentative Lecture Outline - This is the order in which we will cover topics.

TOPIC

Nature of Vertebrate Morphology/Introduction
Origin and Classification of Vertebrates/Early Chordates
Fishes
Tetrapods
Development/Embryology
Integument and Derivatives
Head Skeleton
Teeth
Axial Skeleton
Appendicular Skeleton
Muscular System
Digestive System
Respiratory System
Circulatory System
Nervous System
Reproductive System
Excretory System

Lecture Exams:
1 – September 20
2 – October 27
3 – December 3
Final Exam – Friday December 10
8:00-10:00AM

Tentative Lab Schedule - This is the order in which we will cover topics.

	Week of	TOPIC
1	August 17	Introduction
2	August 24	Lesser Chordates and Vertebrates
3	August 31	Lesser Chordates and Vertebrates
4	September 7	Integumentary System and External Anatomy Begin Skeleton
5	September 14	Skeleton
6	September 21	Skeleton
7	September 28	**LAB EXAM I**
8	October 5	Muscular System
9	October 12	NO LAB – FALL BREAK
10	October 19	Muscular System
11	October 26	Coelom, Digestive and Respiratory Systems
12	November 2	Excretory and Reproductive Systems
11	November 9	**LAB EXAM II,** Begin Circulatory System
12	November 16	Circulatory System, Nervous System
13	November 23	Circulatory System, Nervous System
14	November 30	**LAB EXAM III**