

**ZOOL 3610 General Vertebrate Zoology lecture and laboratory      Fall 2019**

Instructor: Dr. Laurissa Hamilton; phone 667-3489; email: lhamilton@csustan.edu

Office and office hours: N257; Monday, noon - 2pm, and by appt.

Class hours and location: Tues & Thurs in N206; lecture 12:30 – 1:20p, lab 1:35 – 4:25p.

Textbook: Vertebrate Life, 9<sup>th</sup> ed. by Pough, Janis, & Heiser (2013)

**Tentative Schedule:**

<b><u>Date</u></b>	<b><u>Lecture</u></b>	<b><u>Laboratory</u></b>
Aug 22	Introduction to Chordata and Craniata (Ch.1)	Intro. to Chordata & Craniata
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Aug 27	(cont.)	Craniata survey and characteristics
Aug 29	Craniate features (Ch.2)	(cont.)
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Sept 3	(cont.)	Jawless Fishes
Sept 5	Jawless Fishes (Ch.3)	Cartilaginous Fishes
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Sept 10	Cartilaginous Fishes (Ch.5, 4)	Cartilaginous Fishes
<b>Sept 12</b>	(cont.)	<b>LAB EXAM 1 (50 pts.)</b>
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<b>Sept 17</b>	<b>EXAM 1 (80 pts.)</b>	Bony Fishes
<b>Sept 19</b>	<b>Field Trip (12:30 – 5 pm)</b>	<b>San Luis Refuge: Elk, &amp; Central Valley</b>
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Sept 24	Bony Fishes (Ch.6, 4)	Bony Fishes
Sept 26	Bony Fishes (cont.)	Bony Fishes
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Oct 1	Bony Fishes (cont.)	Bony Fishes
Oct 3	Bony Fishes (cont.)	Amphibia
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Oct 8	Amphibians (Ch.8, 9, 10)	Amphibia
Oct 10	Amphibians (cont.)	Amphibia
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Oct 15	Amphibians (cont.)	Reptilia
Oct 17	Reptilia (Ch.11, 12, 13, 16)	Reptilia
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Oct 22	Reptilia (cont.)	Reptilia
<b>Oct 24</b>	Reptilia (cont.)	<b>LAB EXAM 2 (80 pts.)</b>
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Oct 29	Birds (Ch.16, 17)	Birds

Oct 31	Birds (cont.)	Birds
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<b>Nov 5</b>	<b>EXAM 2 (100 pts.)</b>	Birds
<b>Nov 7</b>	<b>Field Trip (12:30 – 5 pm)</b>	<b>Salmon Spawning &amp; Birding</b>
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Nov 12	Birds (cont.)	Birds
Nov 14	Mammals (Ch.18, 20, 21)	Mammals
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Nov 19	Mammals (cont.)	Mammals
Nov 21	Mammals (cont.)	Mammals
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Nov 26	Water & Homeostasis (Ch. 2, 4, 8, 11)	Mammals
<b>Nov 28</b>	<b>NO CLASSES – Thanksgiving</b>	
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<b>Dec 3</b>	Water & Homeostasis (cont.)	<b>LAB EXAM 3 (80 pts.)</b>
Dec 5	Ectothermy and Endothermy (Ch.14, 22)	Open Lab
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Dec 10	Ectothermy and Endothermy (Ch.14, 22)	Open Lab
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**Thursday, Dec 12 at 2:00 p.m. FINAL EXAM (130 pts.) – Lecture/Lab**

**Purpose**

The purpose of this course is to become familiar with vertebrate diversity and adaptation, and some of the techniques employed by vertebrate zoologists.

**Objectives**

- to gain a working knowledge of overall vertebrate diversity with some emphasis on local species.
- to learn the important and identifying features and adaptations of the vertebrates.
- to become familiar with the natural history aspects and ecological roles of vertebrates.
- to practice some of the techniques commonly used by vertebrate zoologists.

**Grading**

Lecture Exams (80 + 100)	= 180
Lab Exams (50 + 80 + 80)	= 210
Lab Quizzes (~8 x 10 pts. ea.)	= ~80
Final Exam – Lecture & Lab	= 130
Presentation	= 50
Field trips + Participation	= 50
	<u>700</u>

**Grades** will be assigned as a percentage of the total possible points earned. Thus, A = 90+%, B= 80-89.5%, C = 70-79.5%, D = 60-69.5%, F= 59.5% and below. Please note that there will be no “+” or “-“ grades and that Cr/NC is not an option.

**Lecture Exams** will cover material from lecture notes and assigned readings. Questions may be of any type. Most likely question types are definitions, short essays, and fill in the blanks.

**Lab Exams** will cover material from laboratory. This will be set up as a lab practical. Thus, most commonly, actual specimens will be set out with specific questions about them. Expect very direct questions requiring specific answers, such as “name the Class/Order/Species”, “name the indicated structure”, “what is the function of the indicated structure”, etc. Also, you may be asked to use a biological key, take measurements, etc.

Only in very rare circumstances can alternative exam times be prearranged. Any exam that is missed without prearrangement with your instructor will result in a permanent loss of those exam points. No makeup exams will be given after an lecture exam has been returned to the class; any unexcused missed exams without a proper written and verifiable excuse will be recorded as a zero. If you miss an exam for a legitimate emergency it is your responsibility to notify the instructor immediately. If provided, makeup exams may be different from regular exams, may include essay and short answer questions, and only will be allowed for a valid documented emergency absence (signed and dated on the day of the absence). These must be completed as soon as possible and no later than within one week of the originally scheduled day of the exam. It is the responsibility of the student to contact the instructor and make arrangements to take the test within the allowed time. Car trouble, traffic, and oversleeping are not valid reasons for missing an exam, so please plan accordingly.

**Lab Quizzes** will be short, announced, and given at the beginning of lecture or lab. They will be on any lab material including written materials in your lab handouts, figures used in lab, keys used in labs, and specimens.

**Final Exam** is comprehensive. It will consist of materials from the previous exams, any other materials your instructor also specifies, and any material presented since the last exam.

Following the return of any graded exam / assignment, you have *seven days* in which to dispute any grade discrepancies. To dispute the scoring of an exam / assignment, bring the exam / assignment and supporting information showing why you deserved a different grade to my office, where we can discuss the issue privately.

**Presentations** will be on refereed published scientific papers on vertebrates. Each student will do one presentation. Each presentation has three parts: an oral presentation, a written outline, and a written abstract.

Each oral presentation will be 8-10 minutes duration and using Powerpoint. It should include a short introduction to the study, a thorough explanation of the methods, clear results, and a short conclusion of the major findings.

Each typed outline will be a brief outline of the informational points in the oral presentation. The outline must conclude with 2 major “points to remember” from the paper. Note: these cannot be “random” points, but must be the major conclusions of the paper. Enough photocopies of the outline must be ready and given to everyone in the class prior to the oral presentation. This should be 1-2 pages in length, no more, no less.

Each typed abstract is, of course, on the paper being presented. An abstract consists of 1-2 sentences of introduction, 1-2 sentences on methods, and several sentences on major findings. This is generally written as one or two paragraphs. The lower and upper page limits for this are  $\frac{3}{4}$  to  $1\frac{1}{2}$  pages, double-spaced. Only one copy needs to be turned in directly to your teacher. This is also due on presentation day. Note that you cannot turn in the abstract which was published with your paper!

No quotes will be allowed in any part of the presentation or associated written tasks! No plagiarism allowed! You will need to submit your abstract to Turn-it-in.com to help in assessing its originality. I will provide instructions for the submission process via email shortly before the submission date.

Papers for the presentation must come from refereed scientific journals. Only papers published in 2018 or 2019 will be approved. I recommend the following journals as they are focused on vertebrates. Papers from other journals may be allowed.

Copeia – fish, amphibians, and reptiles  
Herpetologica – amphibians, and reptiles  
Auk – birds  
Condor – birds  
Wilson Bulletin – birds  
Journal of Field Ornithology – birds  
Journal of Mammalogy – mammals

Note: Everyone must submit a paper for presentation by **September 5 at the beginning of lecture.** There will be a limit on how many people may present for each taxonomic group. Earlier submissions will have priority.

Note: Your presentation in this class cannot be from the same paper as used in any other class and must be your own work.

**The purpose of the presentations is to increase familiarity with scientific literature and methodology and to practice communications skills.**

**→ When you think you have a paper that you want to present, bring a pdf copy of the FIRST TITLE PAGE.** Please be sure that the submitted title page includes the full citation of your proposed article (authors, year, journal, pages, etc). **Keep a copy for your own records – you are responsible for remembering your topic / article.**

**Participation** in labs and field trips is expected. You are expected to actively participate in all activities and work cooperatively with your fellow students and teacher. Most of the points for participation will be earned during the field trips. Attendance and participation in **field trips** is an important part of this course. I consider field trips to be the best part of the course because it involves seeing living vertebrates in their natural habitats and allows practice of techniques. Thus, of the 50 participation points, approximately 20 pts. are earned for each of the scheduled field trips. The other 10 pts. for general lab participation (e.g. if you tend to leave during movies or don't attend lab regularly you will lose these points). Note that missing the field trips automatically incurs a loss of the designated points. Alternative means for gaining back the points are available only when the absence is due to an unforeseen, unavoidable, and verifiable reason.

**Extra Credit** of up to 20 pts. may be earned by participating in some projects with prior approval from your instructor. Examples of projects that are likely to be approved include: participation in a vertebrate

field project with a researcher, participation in a conservation project (ex. at a state or federal park), and writing a short paper on an appropriate topic. Expect to have to find your own projects, but I will let you know of any that I hear of. Projects you incidentally already were doing do not qualify for extra credit. Please note that extra credit work is in no way a requirement of this course. For any outside projects, you must be willing to accept liability for your participation, as the university and I cannot control your outside environment. Also, no extra credit will be approved of after Nov. 21. Papers are due Dec 5. Final grades will be final.

**Other:**

1) Cheating and other forms of academic dishonesty (ex. **plagiarism**) will result in an automatic grade of F in the course. Note that plagiarism is using another's words as your own. *It includes minor tweaking of sentences and near quotes.* Thus, when you do your presentation and associated outline and abstract, be sure that you use your own wording. Some special phrasings must stay the same to retain meaning, but "lifting" of entire sentences or using entire paragraphs with just some minor rewording are both considered plagiarism! (This applies even if you have cited the source).

2) Audio and video recording of this class are not allowed. Let me know if you have some reason why you think you should have an exception to this.