

# ZOO 4307C – Vertebrate Biodiversity

Sections 08A0, 08A1, 08A2, 24CA

Syllabus for Fall 2017

## I. Course Description and Prerequisite

Comparative biology of vertebrates, emphasizing morphology, evolution, ecology and behavior. 4 credits.

This course explores the diversity, evolution, adaptations, and ecology of vertebrates. The lectures and labs are coordinated as much as possible so that laboratory work expands upon information provided through lecture and reinforces an understanding of diversity and adaptation. Labs may include field trips.

**Prerequisites:** BSC 2011 and BSC 2011L with minimum grade of C.

## II. Course Meetings

**Lectures:** TR periods 5-6, 11:45 a.m.-1:40 p.m., Bartram 211

**Labs:** Section 08A0 – T periods 7-9, 1:55-4:55 p.m., 120 Carr  
Section 08A1 – W periods 7-9, 1:55-4:55 p.m., 120 Carr  
Section 08A2 – R periods 7-9, 1:55-4:55 p.m., 120 Carr  
Section 24CA – W periods 3-5, 9:35-12:35 p.m., 120 Carr

**First day of classes:** Monday 21 August 2017

**Last day of classes:** Wednesday 06 December 2017

**Final Exam:** Group 15B, Friday 15 December 2017, 10:00 a.m.-12:00 p.m. (This time slot may not be used; more details will be announced in class)

## III. Instructors

### Course Instructor:

**Dr. Nicole Gerlach**

Department of Biology

Office: 520 Carr Hall

Office hours: In-class immediately following lecture or by appointment

E-mail: [ngerlach@ufl.edu](mailto:ngerlach@ufl.edu)

### Teaching Assistants:

**Ms. Ellen Humbel**

Sections: 08A1, 08A2

Office: 510 Carr

Office Hours: by appointment

E-mail: [ehumbel@ufl.edu](mailto:ehumbel@ufl.edu)

**Mr. Luciano Soares**

Sections: 08A0, 24CA

Office: 609A Carr

Office Hours: by appointment

E-mail: [lsoares@ufl.edu](mailto:lsoares@ufl.edu)

#### IV. Course Communications

- A. **Course Website:** <http://lss.at.ufl.edu> (select Canvas); or <https://ufl.instructure.com/courses/342632>
- B. **Contacting Your Instructors:** If you have a question about course mechanics or course material that cannot be answered from the syllabus, course announcements, or the course FAQ, please post it to the Discussion Boards on Canvas (see section VIII. “Getting Help”, below). If you have a question involving a personal/grade-related issue, please e-mail your TA or Dr. Gerlach, as appropriate. **All e-mail correspondence must originate from Canvas or from your @ufl.edu account, have your full name in the body of the e-mail, and contain “ZOO 4307” in the subject line.** E-mails not meeting these requirements may not be recognized by our e-mail filters, and thus may not be answered. Barring unusual circumstances, expect a reply within 24 hours during the week, and 48 hours over the weekend. E-mails and Discussion Board posts are checked at least once per day, but sometimes not more than that.
- C. **Communications From Your Instructors:** Each student is solely responsible for reading and following the instructions, guidelines and schedules in this syllabus, on the course webpage, and announced in class. Not having read the information in this syllabus, on the webpage, or in course announcements will NOT constitute an excuse for missing deadlines, assignments, or other assessments. Please set your preferences in Canvas so that you receive timely notifications of course announcements and other information.

#### V. Course Resources

##### A. Textbook

*Vertebrate Life, 9e* by Pough, Janis, and Heiser. Pearson (publisher), 2013.

Textbook publisher web site:

<http://www.mypearsonstore.com/bookstore/vertebrate-life-9780321773364>

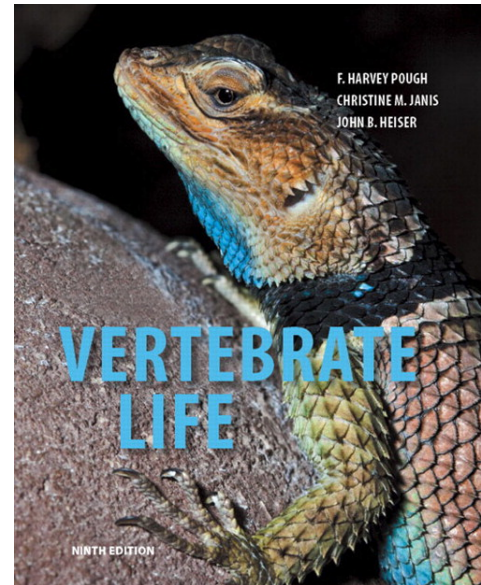
There are current versions of the textbook on reserve at the Marston Science Library. Visit the Reserve Materials area to check out these copies.

Previous editions of the textbook should be used with caution; phylogenies and other information are updated in each edition, and students are responsible for the most recent version (9<sup>th</sup> edition).

This textbook will be offered at the lowest cost option through UF All Access. UF All Access allows students the choice to “opt-in” for a limited time (prior to 9/8/2017) to receive access to a standalone e-book version of *Vertebrate Life* for a reduced price, and pay for these materials through their student account. Students who do not choose this option will be able to purchase a physical copy of the book through the UF Bookstore.

##### To access the etext via UF All Access:

1. Click on the following link <https://www.bsd.ufl.edu/G1CO/IPay1f/start.aspx?TASK=INCLUDED>. This prompts you to log in with your GatorLink account.
2. Students are shown a list of classes in which they are enrolled that are participating in UF All Access, with the prices.
3. Students should click the Opt-in check box next to the class(es) to which they are trying to get access.
4. Students then need to click the button below to authorize the charges.



5. Click the Opt-In button next to the “Amount to Charge” once you have reviewed your course selections.

For help with this system, difficulties finding your access code, or issues with an invalid access code, please contact [allaccess@bsd.ufl.edu](mailto:allaccess@bsd.ufl.edu).

**B. Learning Catalytics**

We will use the Learning Catalytics Classroom Response System for clicker/quiz questions during class, as well as for out-of-class response questions. Learning Catalytics allows students to use a laptop, tablet, smartphone, etc. to participate in a variety of types of questions. Information on correctly registering for Learning Catalytics will be available in Canvas. When setting up your account, you must use your Gatorlink (ufl.edu) e-mail address. Using an e-mail address other than your UFL e-mail address will result in you receiving NO credit for Learning Catalytics questions.

**C. Lab Manual**

The required lab manual for this course is available for purchase from Target Copy.

**D. Course Website (Canvas)**

All class material - including the syllabus, assignments, announcements, and gradebook – will be posted on the course Canvas website (<https://ufl.instructure.com>). For help with Canvas, call the UF Computing Help Desk at 352-392-4357, or visit the Canvas support website: <http://help.instructure.com/>.

**E. Course Fee**

The course fee is \$80.98, which covers the cost of specimens and other materials for this course.

## VI. Course Objectives

This course explores the structure and function of vertebrates with an emphasis on trends in vertebrate evolution and biodiversity. By the end of the course, students will:

- Be able to explain how diverse vertebrate species have evolved in response to biotic and abiotic challenges, and how these various selective pressures have led to various vertebrate adaptations, including morphological, physiological, ecological, and behavioral traits.
- Understand major events in the evolutionary history of vertebrates, such as the origin of land vertebrates, and be able to place these events in the appropriate geological context.
- Be able to classify vertebrate species to the appropriate phylogenetic group using correct scientific names, and describe the relationships between the major groups of vertebrates, and the synapomorphies that define each group.
- Be able to identify major anatomical structures in diverse vertebrate species, including cartilaginous and bony fishes, amphibians, mammals, reptiles, and birds.
- Be able to look at a living or fossil vertebrate and be able to make logical predictions about its way of life.
- Understand how differences in life history have arisen in various vertebrate groups, and how these differences affect conservation concerns in each group.

## VII. Course Policies

**A. Time Commitment**

The UF College of Liberal Arts and Sciences assumes that each student will devote 3-4 hours per week per

credit-hour to each course during the regular semester. Because ZOO 4307C is 4 credits, each student should therefore expect to devote 12-16 hours per week to this course in a 15-week semester.

**B. Attendance**

Students are expected to attend all scheduled classes, and are responsible for all material presented in lecture, lab and in the assigned readings. Students who miss class are welcome to ask to borrow the notes of their classmates; the instructors will not be responsible for providing notes. Please note that no in-class quizzes or participation points can be made up, regardless of the reason for missing class.

Expectations for lab attendance follow the above and have the following additional specifications: labs are only set up for a few days each week, so there is little opportunity to make-up a missed lab. Notify your instructor immediately if you will miss a lab and if at all possible arrange to attend the lab for one of the other sections. Lab attendance and participation are part of your grade and there will be minimal (=no) opportunity to review the missed material if you do not attend lab. Note that labs meet once a week for three hours – plan accordingly.

**C. Quizzes**

Quizzes may be given at any time in lecture or lab, without notice. There will be no make-up quizzes during class or afterwards. You are required to attend your registered lab section for all lab quizzes unless you have a Dean of Students verified excuse or permission of the lab instructors involved. You must arrive within 10 minutes after the start of lab in order to take the quiz. Arriving after 10 minutes or after the quiz has been given will result in a 0 for that quiz.

**D. Exams**

Students are expected to arrive on time; no extra time will be given for students who arrive late. Students who arrive after the first student finishes the exam will not be allowed to take the exam. Any material covered during the lecture period or assigned in the reading may be included in the lecture exams. This can include textbook illustrations, films, Powerpoint slides, and actual lectures. Take notes!

We will post exam keys that highlight the salient points for which credit is awarded. Please see us immediately if 1) your score is incorrectly summed, or 2) your posted score does not agree with the score on your exam. We will consider re-grades on a case by case basis, however, we will not argue about point assignments. To request a regrade, write a brief paragraph explaining why you believe your answer to a question was incorrectly scored, make specific reference to the posted key and submit to us in office hours (so that an instructor can look over your request and be sure it is clear). Regrade requests must be submitted within one week of the exam scores being posted.

Make-up exams will **only** be available in cases of medical and/or family emergencies when documented by an accompanying letter from the Dean of Students, or for official academic activities (in which case the instructor should be contacted a minimum of two weeks in advance). The student is responsible for scheduling timely make-up exams with the instructor. Make-up exams due to pre-arranged official academic activities may be scheduled prior to the in-class exam.

Lab exams will be held Wednesday evening the week of the exam. You must sign up for a time slot in advance. One time will be 6:00-7:30 pm, and the second will be 7:30-9:00 pm. Due to the time involved for set-up and breakdown of practical (lab) exams, a missed lab exam should be avoided if at all possible. If unavoidable circumstances result in a missed lab exam or quiz, a make-up will be offered in an alternate format providing the absence was excused. If the absence is unexcused, there will be no make-up available.

**E. Late Work**

Assignments should be submitted by the assigned deadline. Late work will be subject to a 20% penalty for every day it is late. For example, an assignment initially worth 10 points will be subject to a 2 point penalty if it is submitted up to 24 hours after the deadline, a 4 point penalty up to 48 hours, etc.

Graded lecture assignments should be submitted to the course website by the posted deadline, unless otherwise noted. Graded lab assignments are due at the beginning of the lab session one week after the actual lab work was done, unless otherwise noted. Assignments turned in after the start of the lab session will be considered late work. If you are unable to turn in your work during your regular lab section and are not able to hand it in directly to your instructor, DO NOT leave an assignment at your instructor's office. Rather (1) make a photocopy of your assignment for safekeeping and (2) hand in the original to the staff of the departmental office (220 Bartram Hall) during regular office hours (8 am – 4 pm).

**F. Classroom behavior**

Readings should be done in advance of class; you are expected to come ready to discuss the topics. Please be courteous to others during both lecture and lab, particularly during in-class discussions. Students exhibiting disruptive behavior in class will be asked to leave, with the subsequent loss of participation points for that day. Use of electronic devices in class to take notes or otherwise participate in classroom activities is approved, but all electronic devices should be set to silent mode before coming to class. Approved electronic devices are laptop computers, cell phones, smart phones, tablets, iPod touch, and voice recording devices. Other uses of these devices or the use of unapproved devices will be considered disruptive. Unapproved electronic devices include video recorders, digital cameras and MP3 players.

**G. Office Hours**

Office hours for this course are in the lecture room immediately following lecture, or by appointment. We cannot meet with students on a drop in basis outside of posted office hours.

**H. Grammar**

Correct grammar, punctuation, spelling, capitalization and paragraphing should be used in any college level submission, including exams and typed reports. We will take note of spelling and grammar and we will grade accordingly. There are multiple cases where two distinct groups of vertebrates may have names with similar spelling, so be careful: spelling counts!

## VIII. UF Policies

**A. Academic Honesty**

All students registered at the University of Florida have agreed to comply with the following statement:

*"I understand that the University of Florida expects its students to be honest in all their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University."*

In addition, on all work submitted for credit the following pledge is either required or implied:

*"On my honor I have neither given nor received unauthorized aid in doing this assignment."*

Cases of plagiarism or other academic dishonesty will not be tolerated, and may result in grade penalties or other sanctions. If you have knowledge of any instances of academic dishonesty in this class, please notify the instructor or contact the Student Honor Court (392-1631) or Cheating Hotline (392-6999). For additional information on Academic Honesty, please refer to the University of Florida Academic Honesty Guidelines at: <https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx#honesty>.

**B. Accommodations for Students With Disabilities**

Students who will require a classroom accommodation for a disability must contact the Dean of Students Office of Disability Resources, in Peabody 202 (phone: 352-392-1261). Please see the University of Florida Disability Resources website for more information at: <http://www.dso.ufl.edu/drc/>. Note that the student should provide documentation of a requirement for accommodation to Dr. Gerlach **by the second week of classes** when possible. No accommodations are available to students who lack this documentation, and accommodations are not retroactive. It is the policy of the University of Florida that the student, not the

instructor, is responsible for arranging accommodations when needed. Once notification is complete, the Dean of Students Office of Disability Resources will work with the instructor to accommodate the student.

### C. Drop/Add/Withdrawal

A student can drop/add during the drop/add period with no penalty. After drop/add, a student who drops will receive a W until the date listed in the academic calendar. After that date, the student may be assigned an “E” (fail). **Note: it is the responsibility of the STUDENT to withdraw from a course, not the instructor. Failure to participate/complete the class is NOT a drop.**

### D. Teacher Evaluations

Anonymous course evaluations will be open via UF’s online evaluations system (<https://evaluations.ufl.edu>) near the end of the semester; you will receive e-mail notifications of when the evaluations open.

## IX. Getting Help

### A. Computing Problems

For issues with technical difficulties in Canvas, please contact the UF Help Desk at:

- [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu)
- (352) 392-HELP - select option 1
- <https://lss.at.ufl.edu/help.shtml>

### B. University Support Services

College can be a very stressful time in a person’s life. Resources are available on campus to help students meet academic goals and solve personal problems that may interfere with their academic performance. If you find that you are having difficulty emotionally or academically, there is substantial support available. See “[A Self Help Guide for Students](#)” or contact one of the following services:

1. [UF Counseling and Wellness Center](#), Radio Rd Facility, 392-1575
2. [Dean of Students Office](#), 202 Peabody Hall, 392-1261
3. [Career Resource Center](#), Reitz Union, 392-1601
4. [CLAS Academic Advising Center](#), Farrior Hall, 100 Fletcher Drive, 392-1521
5. [UF Field and Fork Pantry](#), 564 Newell Dr., 294-3601

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Dean of Students (202 Peabody Hall, 392-1261) for support. Furthermore, please notify your instructor(s) if you are comfortable in doing so. This will enable us to provide any resources that we may possess.

### C. Other Questions

If you have non-tech-support questions about other aspects of the course, check the following sources first to see if it is already answered, **before** e-mailing your instructors:

- Course Syllabus
- Course Announcements (this is the primary means that your instructor has to communicate with you in a timely manner)
- Course FAQ Discussion Boards

If you still cannot find the answer to your questions:

- If it is a question that others might find useful to know the answer to as well, post it to the

- discussion board.
- If it is a question specific to you (e.g. account or grade specific), contact Dr. Gerlach or your TA via e-mail.

## X. Assessments and Grading

### A. Course Structure

Final grades will be based on performance in both lecture and lab.

	Graded Item	Percent of Final Grade
Lecture:	Lecture Exam 1	13.33
	Lecture Exam 2	13.33
	Lecture Exam 3	13.33 (40% total for 3 lecture exams)
	Lecture Participation	20 (includes homework, Learning Catalytics, Get to Know a Vertebrate Presentation, and other in-class participation/quizzes)
Lab:	Lab Practical 1	10
	Lab Practical 2	10
	Lab Participation	15 (includes lab homework and lab quizzes)
	Field Report	5

### B. Assignments

- **Get to Know a Vertebrate (counts towards lecture participation)**  
Each student will give a short presentation (~5-7 minutes) in lecture during the course of the semester that covers the phylogeny, natural history, and peer-reviewed research on an unusual or unfamiliar vertebrate species of their choice. For full credit, students must submit a brief summary of their report to the course website by the night *before* their presentation.
- **Conservation Reports (counts towards lecture participation)**  
Several times over the course of the semester, students will be asked to research and write a short essay detailing a conservation concern of their choice that affects a particular taxonomic group of vertebrates. Students should include information about the source of the conservation threat, which species are affected, what aspects of their biology make them susceptible, and what (if anything) can or has been done to alleviate the concern. These essays should include references to news media stories as well as primary literature related to the conservation issue at hand. Students may also be asked to complete similar-length writing assignments on other topics (e.g. response pieces to readings, etc.)
- **Field Report**  
Students will complete a series of observations of local vertebrate species as part of a semester-long project. Observations, identifications, and descriptions will be uploaded by each student to the website <http://www.inaturalist.org>. More details will be available on the course website.

### C. Grading

Minimum grade cutoffs are listed below. These cutoffs will not be raised; in other words, if you receive 93% of the possible points, you are guaranteed to earn an A grade. A curve may be applied to individual exams or to the final scores, depending on the class average, and will be communicated clearly. However,

we will *not* adjust or round-up grades on an individual basis for any reason.

Point Range (%)	Letter Grade
≥ 93	A
≥ 90	A–
≥ 87	B+
≥ 83	B
≥ 80	B–
≥ 77	C+
≥ 73	C
≥ 70	C–
≥ 67	D+
≥ 63	D
≥ 60	D–
< 60	E

Note that the current UF policy for assigning grade points is available at the following undergraduate catalog web page: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>.

- D. **Incomplete (“I”)**: If a student has completed the majority of the course work and particular DOCUMENTED circumstances prevent completion of the course in the time allotted, the student may, with the agreement of the instructor, be assigned an “I” pending resolution of the grade. All incompletes MUST be resolved by the end of the following term or the student will receive a grade of “E” (failing).
- E. **Special Treatment**  
Please do not request individual special treatment regarding grading at the end of the semester; **we do not adjust grades for individuals for any reason**. Plan to do well on all exams, quizzes, and other assignments from the beginning of the semester; if you are having difficulty in the class, please let your instructors know sooner rather than later.

## XI. Disclaimer

This syllabus represents the current plans and objectives; however, schedules, requirements, and assignments may change throughout the semester as the need arises. Such changes, communicated clearly, are not unusual and should be expected.



## XII. Weekly Schedule

NOTE: The following schedule is tentative; lecture topics and coverage may change. The updated schedule and specific reading assignments will be announced on the course website throughout the semester.

Wk #	Lec #	Date	Lecture Topic	Chapter	Lab Topic
1	1	T 22 Aug	Introduction, Evolution, and Phylogenetics	1	No Lab
	2	R 24 Aug	Phylogenetics II & Chordates	1, 2.1	
2	3	T 29 Aug	Features of Vertebrates	2.2-2.3	Phylogeny Chordates, Agnatha
	4	R 31 Aug	Jawless Fishes and the Evolution of Jaws	3	
3	5	T 05 Sep	Living in Water I	4.1-4.3	Museum Collections Tour
	6	R 07 Sep	Living in Water II	4.4-4.6, 14.3	
4	7	T 12 Sep	Chondrichthyes I	5.1-5.4, 5.7	Chondrichthyes
	8	R 14 Sep	Chondrichthyes II	5.5-5.6	
5	9	T 19 Sep	Osteichthyes I	6.1-6.3, 6.8	Fish I
	10	R 21 Sep	Osteichthyes II	6.3-6.7	
6		<b>T 26 Sep</b>	<b>EXAM 1</b>		Fish II
	11	R 28 Sep	Living on Land I	8.1-8.4, 9.1	
7	12	T 03 Oct	Living on Land II / Early Tetrapods	8.5-8.8, 9.2, 14.4	Amphibians
	13	R 05 Oct	Amphibia I	10.1, parts of 10.2- 10.6	
8	14	T 10 Oct	Amphibia II	10.2-10.7, 14.3	<b>LAB EXAM 1 (W 11 Oct)</b>
	15	R 12 Oct	Amniotes	9.3, 11	
9	16	T 17 Oct	Turtles	12	Turtles
	17	R 19 Oct	Early Diapsids	16.1-16.3, parts of 9, 11, & 16.4, 13.2	
10	18	T 24 Oct	Squamates I – Lizards	13	Lepidosauers
	19	R 26 Oct	Squamates II – Snakes	13	

11		<b>T 31 Oct</b>	<b>EXAM 2</b>		Archosaurs I
	20	R 02 Nov	Crocodylia & Dinosauria I	16.4	
12	21	T 07 Nov	Dinosauria II	16.5-16.8	Archosaurs II
	22	R 10 Nov	Aves I	16.9, 17	
13	23	T 14 Nov	Aves II	17	Museum Field Trip
	24	R 16 Nov	Endothermy, Early Synapsids	18, 22	
14	25	T 21 Nov	Mammalia I: Monotremes & Marsupials	20, 21, 23	No Lab
		R 23 Nov	Thanksgiving – No Class		
15	26	T 28 Nov	Mammalia II: Eutheria - Afrotheria	20, 21, 23	Mammals
	27	R 30 Nov	Mammalia III: Eutheria - Boroeutheria	20, 21, 23	
16		<b>T 05 Dec</b>	<b>EXAM 3</b>		<b>LAB EXAM 2 (W 06 Dec)</b>
		R 07 Dec	Reading Days – No Class		
		<b>F 15 Dec</b>	<b>FINAL EXAM (10:00 a.m.-12:00 p.m.)</b> (This time slot may not be used; more details will be announced in class)		