

COURSE SYLLABUS

Vertebrate Paleontology: Fossil Record and Evolution of Vertebrates

ZOO 5115C | Section number 5115

ZOO 4926 | Section number 35H9

GLY 6932 | Section number 6523

GLY 4930 | Section number 4455

GENERAL INFORMATION

Semester: Spring, 2025

Room: CRR 222

Meeting Time: Tuesday: 12:50-1:40pm; Thursday: 12:50-2:45

Credit Hours: 3

Instructors

Dr. Jonathan I. Bloch, email: jbloch@flmnh.ufl.edu

Dr. Advait M. Jukar, email: advaitjukar@floridamuseum.ufl.edu

Office Hours: TBD

Contacting Us: We will try our best to respond to your emails within 48 hours of receiving them. If you need to schedule an appointment with us, please send us an email with 2-4 days and times that work best for you. If it is an emergency, please write “URGENT” in the subject line. Please copy both instructors on all communications

COURSE DESCRIPTION AND FORMAT

Welcome to vertebrate paleontology! Vertebrates are some of the most charismatic, and diverse organisms on the planet. Being vertebrates ourselves, this is our story. In this course, we will undertake a broad survey of vertebrate evolution and ecology as it is informed by the fossil record. We will cover the basic concepts of vertebrate paleontology, how different vertebrates are related to each other, key innovations in the history of vertebrate evolution, and the explore the diversity of vertebrate life.

This course is a Lecture/Lab/Discussion based course. This means that while lecture will form the basis for how we teach, our lectures will be supplemented with hands-on activities using fossils and other specimens, and a close reading and discussion of the primary literature. Tuesdays will be lecture only whereas Thursdays will be lecture+lab/discussion. Please pay close attention to the course schedule for the kind of class and activities for that day.

STUDENT LEARNING OUTCOMES

In this course, students will learn about the approaches and methodologies used by paleontologists, ecologists, biologists, and geologists.

Students will use evidence and/or knowledge generated within paleobiology to critically analyze questions, ideas, and/or arguments related to the evolution of vertebrates.

As a STEM course, students will demonstrate competency in working with numerical information, critically analyzing quantitative information, generating ideas that are supported by quantitative evidence, assessing the relevance of data and its associated implications in a variety of contexts, and communicating those ideas and/or associated interpretations using various formats (graphs, data tables, equations, oral presentations, or written reflections).

COURSE OBJECTIVES

In this course, you will:

- Communicate findings of vertebrate paleobiology using the approaches and tools used by paleontologists.
- Utilize a comparative approach to generate and test hypotheses about vertebrate paleobiology
- Embrace a tree-thinking approach to understand the pattern and process of evolution.
- Critically analyze quantitative paleontological evidence and use quantitative techniques that are used to reconstruct vertebrate biology and ecology.
- Synthesize quantitative paleontological evidence to reconstruct past ecosystems.
- Assess/Judge the ethics and human biases involved in the practice of paleontology as a study of the past.
- Interpret and communicate quantitative paleontological information using tables, visual representations.

STUDENT LEARNING EXPERIENCE

Throughout the course you will be exposed to lectures, in-class small group activities including think-pair-share exercises, low stakes quizzes, discussion board assignments, and homework assignments that are designed to help you keep track of your Final Project, and collaborative learning and science communication.

READINGS

Textbook: *Vertebrate Paleontology (2024)*, By Michael J. Benton 5th edition (Wiley).

Other readings: (articles from primary literature and book chapters) will also be required and made available, as needed.

ASSESSMENTS

1. In-class activities

Each class period will have an in-class assignment that will be turned in during the class period. These will be designed as short think-pair-share activities to get you thinking about the course material, or will be a question pertaining to the reading for that class period.

2. Weekly Assignments

Each lab/discussion day will include an assignment that has to be turned in by Sunday at 11:59pm. For days when we will investigate specimens as part of lab in the classroom, the assignments will be based on this component of class. For days when we will discuss a paper, the assignments will be prompts that you will have to answer to help you understand the paper better.

3. Discussion Board Posts

Because vertebrate paleontology is such a broad topic, we will not be able to cover all of your favorite fossil critters in class. But, this is a good way for you to teach your peers. Every week, we will assign a discussion board post where you have to find a recently described (last 10 years) fossil animal that is emblematic of the topics covered that week, and post the citation for the study where the species was described, a picture of the fossil, a reconstruction if available, and write a few sentences about where it was found, how old it is, what it's related to, and why it fits the theme of the classes that week. These will be due on Sunday at 11:59pm.

4. Quizzes

We will have a short quiz each week that covers the coursework for that week. Questions may include concepts covered in previous weeks as well. Quizzes are take home, open book, open notes. You cannot work with anyone on these assignments. Quizzes will be available on Thursday at 5pm, and will be due on Sunday at 11:59pm

5. Final Project

TBD, but will likely involve a presentation

Grad students: more intensive, will include a research component

GRADING

Short In-class Activities	20%
Weekly Assignments	20%
Discussion Board Posts	15%
Quizzes	20%
Final Project	25%

This course follows a standard 90-100%=A, 80-89%=B, 70-79%=C, 60-69%=D, <60%=E grading breakdown. Depending on overall class performance we may shift the grade boundaries down to lower thresholds but will not increase the cutoffs. It is really important that you come to class prepared to learn, take notes, and turn in your work on time.

We will drop the lowest 3 assignment, and quiz scores. If you need to make up missing work before of an allowable excuse, you MUST inform both of us BEFOREHAND, and you will be given one week to make up the work.

OPTIONAL FIELD TRIPS

Florida has a rich fossil record, and a long history with vertebrate paleontology. The

Florida Museum of Natural History is the State Repository of vertebrate fossils, and we have a vibrant paleontology program here at the museum at UF. We would like you to experience this and will provide three optional weekend field trips.

1. **Fossil exhibits at the FLMNH**

This will be a field trip to the FLMNH, located in the UF Cultural Plaza on the west edge of campus (Hull Road). We will lead this field trip in small groups. Tentative date and time: TBD. We will meet at Powell Hall, Hull Road, UF campus.

2. **Tour behind the scenes of VP research and collection facilities**

We will take small groups of students behind the scenes in the fossil repository in Dickinson Hall, UF Campus. Tentative date and time: TBD.

3. **Montbrook fossil site**

The Montbrook fossil site is a large excavation near Williston, FL, just south of Gainesville. Florida Museum crews and volunteers have been excavating this site since 2009. The museum has an ongoing excavation, and interested students can participate on the weekend. We will provide you with a sign up sheet at the beginning of the semester. Please note, this is a full day (10am to 4pm) trip.

COURSE POLICIES

Class Demeanor

Students are expected to be to class on time and behave in a manner that is respectful to the instructor and to fellow students. Please do not use of cell phones and restrict eating to outside of the classroom. Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all.

UF students are bound by The Honor Pledge which states “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. See the [UF Conduct Code website](#) for more information. If you have any questions or concerns, please consult with the instructors or TAs in this class.

Communication, Content and Delivery

Assignments and notifications will be provided using the course website

Materials & Supplies fees

There are no additional fees for this course.

Attendance and Make-up assignments

Attendance is required and is part of the final grade. Other requirements for class attendance, assignments, and related matters are consistent with [university policies](#).

Recording Policy

We will record lectures and make them available after class. Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal education use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor. A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by an instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentation such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private 3 Revised: September 2024 conversations between students in the class or between a student and the faculty or guest lecturer during a class session. Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless, of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third-party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under 2 Revised: September 2024 GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Disability Accommodation

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. See the [“Get Started With the DRC” webpage](#) on the Disability Resource Center site. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

UF Counseling Resources

Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- UF Counseling & Wellness Center, 3190 Radio Rd, 392-1575, psychological and psychiatric services.
- Career Resource Center, Reitz Union, 392-1601, career and job search services.

Many students experience test anxiety and other stress related problems. The [Counseling and Wellness Center](#) can help you address those problems (4th floor at Peabody Hall, 392-1575).

CAMPUS RESOURCES

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit [U Matter, We Care website](#) to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit the [Counseling and Wellness Center website](#) or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the [Student Health Care Center website](#).

University Police Department: Visit [UF Police Department website](#) or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the [UF Health Emergency Room and Trauma Center website](#).

GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the [GatorWell website](#) or call 352-273-4450.

E-learning technical support: Contact the [UF Computing Help Desk](#) at 352-392-4357 or via e-mail at helpdesk@ufl.edu.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. [Career assistance and counseling services](#).

Library Support: Various ways to receive assistance with respect to using the [libraries or finding resources](#). Call 866-281-6309 or email ask@ufl.libanswers.com for more information.

Teaching Center: 1317 Turlington Hall, 352-392-2010 or to make an appointment 352-392-6420. [General study skills and tutoring](#).

Writing Studio: Daytime (9:30am-3:30pm): 2215 Turlington Hall, 352-846-1138 | Evening (5:00pm-7:00pm): 1545 W University Avenue (Library West, Rm. 339). [Help brainstorming, formatting, and writing papers.](#)

Academic Complaints: Office of the Ombuds; Visit the Complaint Portal webpage for more information. Enrollment Management Complaints (Registrar, Financial Aid, Admissions): [View the Student Complaint Procedure webpage](#) for more information.

DISCLAIMER

This syllabus and course requirements are subject to change. If changes occur, these will be communicated to the students.