Syllabus, HSD-2898-R.
Warm and Cold Blooded: An Introduction to Vertebrate Species
3 Humanities and Sciences credits, Fall 2019

Lecture/Lab: Monday, 3:20–6:10 p.m.
Room 802/803 (380 Second Avenue, Humanities and Sciences Department, 8th floor)

Catalog description: Evolution is a central concept in biology. This course examines evolution as a science and places it in both historical and contemporary contexts. Classes focus on descent with modification, the nature of natural selection, the history of the earth, the information content of the fossil record, and processes responsible for generating biological diversity. The course also explores the importance of evolutionary thinking in the Anthropocene, including discussion of personalized genomics, climate change, and extinction.

Prerequisites: none.

Hours/credits: 3 credits; 3 hours per week

Lecture instructor and course coordinator:
Arianna Kuhn, City University of New York
Office: Herpetology Department, American Museum of Natural History
Office hours: by appointment – schedule immediately before or after class at SVA, or any other time at the American Museum of Natural History
E-mail: ariannakuhn@gmail.com
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Required Text(s):
James, Jamie. *The Snake Charmer: A Life and Death in Pursuit of Knowledge*. 2008. Hachette Books. 1-272.
ISBN-10: 1401302130

Personal Journal for species accounts, writing, note-taking, and drawing

Additional articles will be assigned in class, links or PDFs will be supplied through Canvas

Course objectives (overview and philosophy): How are all of the species living on Earth related? In this vertebrate evolution course, students will learn general principles about both endothermic (warm- blooded) and ectothermic (cold-blooded) animals, their habitats and origins. We will begin with an introductory overview of paleozoology, focusing on ancient aquatic animals, modern birds and reptiles, including the oldest ectothermic vertebrate classes on the planet. Students will examine the fossil record and how to read a phylogenetic tree. Historical scientists, taxonomy (classification), life cycles, conservation, and other topics will be explored. This will be an integrated lecture course with field trips to the American Museum of Natural History and urban environments. Together, we will examine historical collections, geologic time scales and visual displays. Overall, this course will increase students' understanding of the scientific study of vertebrate animal species, their evolution and groupings as well as current threats to biodiversity.

Assessment tools and grading:

The final grade will be calculated as follows:	
Any material covered in class/field trips/outside reading:	
Exam 1	10%
Exam 2	10%

Exam 3	10%
External assignments:	
Written/Other Assignments	25%
Species Journal	20%
Class Participation	10%
Oral Presentation	15%

Exams.

Make ups: If you know that you will miss an exam, contact the instructor as soon as possible so that you can take the exam in advance. Make-up exams will be allowed only for *documented excused* absences.
Format: I will provide a short list of prompt topics covered throughout the class a week in advance of the exam. From this list, several prompt questions will be selected for the exam, you will select and discuss two (in writing). When applicable, we will include additional "lab practical" style questions (e.g., looking at a microscope slide we went over in class and answering a question about it).

Written/other Assignments.

Species Journal.

Assignment: Throughout the semester, you will keep a notebook of species observations from class lectures and field trips. This journal will be due the 2nd to last class. This must include 4 representatives from the following list (living or extinct, but not pets!): mammal, bony fish, amphibian, non-avian reptile, avian, cartilaginous fish, jawless fish
Information to Include: common & scientific name, a description of the environment, date & time of observation, sketches of traits and behavior

Class Participation.

This grade will be based 50% on contribution to debates/class discussions
Based 50% on Attendance – see attendance policy for more details.

Oral Presentation.

Assignment: You and an assigned partner will give a 5-minute oral presentation on an extinct palaeo-vetebrate of your choice (this can be one you observed during the AMNH Hall of Vertebrate Origins trip, or a species not represented that you found on your own). You will present information about the origins, timing, known history, fossil findings, and hypothesized depiction and behavior of your species in an Animal-Face-off style class bracket.
I will provide a rubric for this assignment distributed in advance.

Attendance Policy.

Class begins promptly, and you are required to be on time. Attendance for lab exercises, including field trips, is required. **If you miss more than three classes (including field trips) you will be withdrawn from the class**. If you are more than 30 minutes late for class, it will count as half an absence. Showing up <30 minutes late to class repeatedly will result in a reduction of your participation grade.

Students with Disabilities.

In order to receive academic accommodations due to a disability, a student must first register with the disability Resources Office. Once approved, students must provide the instructor with an official Accommodation Letter. Instructors are not

Academic Integrity.

Academic dishonesty, including plagiarism, will not be tolerated; it will be dealt with subject to SVA policies regarding academic integrity. The full SVA policy can be found in the SVA handbook (pg. 8). Cases where academic integrity is severely compromised will be prosecuted according to these rules. Minimally, students found to have

committed an act of academic dishonesty will receive a 0 for the assignment of which an infraction is suspected and substantiated.

Field Trips.
These trips will be mandatory and will occur during our regular class schedule unless self-guided – I will take attendance. These trips will be to the American Museum of Natural History for a collections tour, the American Museum of Natural History for a Vertebrate Origins Visit, Inwood Hill Park, and Central Park. I will give information in advance for meeting locations and proper attire when necessary.

Students with Disabilities.
SVA is committed to providing students with access to their academic programs and courses. If you are a student with a disability and require accommodations, you must register with Disability Resources by visiting sva.edu/disabilityresources and completing an online accommodation request. To be eligible for accommodations in this course, students must provide the instructor with a letter of accommodation from Disability Resources. For questions or assistance, please call Disability Resources at 212-592-2396, or visit the office: 340 East 24th Street, New York, NY 10010, or email disabilityservices@sva.edu

Academic Integrity: Academic dishonesty, including plagiarism, will not be tolerated. Students found to have committed an act of academic dishonesty will fail the assignment for which an infraction is suspected and substantiated. More serious violations will be handled through the process enumerated in the SVA Handbook. Put simply, make sure your work is your own.

Lecture schedule (tentative; may be modified if necessary):

Date	Topic
Mon. 9 Sept.	Introduction to the course. The classification of living things
Mon. 16 Sept.	Mechanisms: The Processes of Evolution; where do new species originate; the intersection of ecology and evolution
Mon. 23 Sept.	Field trip to Inwood Hill Park: citizen science and invasive species
Mon. 30 Sept.	The History of Life: Identifying the Patterns. Homology, phylogeny, systematics: interpreting the Tree of Life
Mon. 7 Oct.	EXAM I
Mon. 14 Oct.	Evolution of the Backbone: Vertebrate Origins and Major groups. Present "Youtube Reality" studies
Tues. 21 Oct.	Overview of Paleo vertebrate Evolution: the time tree of life. Trip to Hall of Vertebrate Origins
Mon. 28 Oct.	Bird walk through Central Park with AMNH Ornithologist: observations of fall migrants
Mon. 4 Nov.	Palaeo vertebrate in class presentations
Mon. 11 Nov.	EXAM II
Mon. 18 Nov.	Museum Collections I: How to we preserve biological diversity, how do we study it? Behind the scenes tour of the AMNH Herpetology Collection
Mon. 25 Nov.	Museum Collections II: Required text discussion. Debate about the Mustached Kingfisher and the continued utility of museum collections
Mon. 2 Dec.	Major Events in the History of Life*: mass extinction and human origins. Debate on Racing Extinction*
Tues. 9 Dec.	The Big Remaining Questions: the origin of complex forms, major trends in evolutionary biology
Tues. 16 Dec.	EXAM III, wrap-up discussion

Instructor (person who prepared this description): Arianna Kuhn
Date Modified: 25 Aug 2019