OEB 126: Vertebrate Evolution

Professor: Stephanie E. Pierce
Teaching Fellow: Phil Fahn-Lai

Lectures: Tues., Thurs., 12:00-1:15pm, Room MCZ 101
Laboratory section: Thurs., 3:00-5:45pm, Room NWBldg B311

Spring 2020 course structure:

Tues., Jan 28 – (1) Introduction to Vertebrate Evolution
Thurs., Jan 30 – (2) Anatomy, Phylogeny, & Poster presentation

NO LAB

Tues., Feb 4 – (3) Inception of the vertebrate bauplan
Thurs., Feb 6 – (4) Life without jaws: 'agnathan' fish

LAB 1 (2%)

Tues., Feb 11 – (5) The making of JAWS
Thurs., Feb 13 – (6) An introduction to early jawed vertebrates

LAB 2 (2%)
Quiz 1 (1%)

Tues., Feb 18 – (7) Bony fish and the rise of ray-fins
Thurs., Feb 20 – (8) Sarcopts I: the lobed-finned fishes

LAB 3 (2%)
Quiz 2 (1%)

***Fri., February 21 – Clade of choice for poster presentation due (1%)**

Tues., Feb 25 – (9) Sarcopts II: tetrapods emerging
Thurs., Feb 27 – (10) Amphibians: exploring the terrestrial realm

LAB 4 (2%)
Quiz 3 (1%)

Tues., Mar 3 – (11) Breaking ties with water: amniotes (guest: Tiago Simões)
Thurs., Mar 5 – **Lecture Mid-term (20%) – in class**

NO LAB

Tues., Mar 10 – (12) Things that slither: lizards and snakes (guest: Tiago Simões)

Thurs., Mar 12 – (13) Crocodile origins and diversity

LAB 5 (2%)
Quiz 4 (1%)

***Fri., March 13 – Literature survey for poster presentation due (2%)**

Tues., Mar 16
Thurs., Mar 20 SPRING RECESS: Thomas Farm Field Trip!

Tues., Mar 24 – (14) Welcome to the world of dinosaurs (guest: Robert Brocklehurst)
Thurs., Mar 26 – (15) Feathered dinosaurs & avian origins (guest: Robert Brocklehurst)

LAB 6 (2%)
Quiz 5 (1%)

Tues., Mar 31 – (16) Sea monsters are real
Thurs., Apr 2 – (17) Pterosaurs and turtles, oh my!

LAB 7 (2%)
Quiz 6 (1%)

***Fri., Apr 3 – Title and abstract for poster presentation due (5%)**

Tues., Apr 7 – (18) The forerunners of mammals (guest: Megan Whitney)
Thurs., Apr 9 – (19) Cynodonts and the making of a mammal (guest: Megan Whitney)

LAB 8 (2%)
Quiz 7 (1%)

Tues., Apr 14 – (20) Mesozoic mammals and our pouched cousins
Thurs., Apr 16 – (21) Introducing placental mammals

LAB 9 (2%)
Quiz 8 (1%)

***Fri., Apr 17 – Draft of poster for feedback due (2%)**

Tues., Apr 21 – (22) Diverse dentitions: evolution of mammalian feeding (guest: Katrina Jones)
Thurs., Apr 23 – (23) Navigating new environments: evolution of mammalian locomotion (guest: Katrina Jones)

LAB 10 (2%)
Quiz 9 (1%)

Tues., Apr 28 – **Lecture FINAL EXAM (25%) – in class**

Quiz 10 (1%)
Movie night 😊

Wed., Apr. 29 – Wed., May 7 – Reading period

POSTER PRESENTATION date TBD (15%)

Grading
Lecture Mid-Term = 20%; Lecture Final = 25%; Lab participation = 20%; Lab Quizzes = 10%; Poster presentation = 25%

Supplementary reading list (plus other literature provided on the course website)

Michael J. Benton	2015 (hard copy and online)	Vertebrate Palaeontology, Fourth Edition
John A. Long	2011 (hard copy)	The Rise of Fishes: 500 Million Years of Evolution
Jennifer A. Clack	2012 (hard copy and online)	Gaining Ground: The Origin and Evolution of Tetrapods
Robert Carroll	2009 (hard copy)	The Rise of Amphibians: 365 Million Years of Evolution
Hans-Dieter Sues	2019 (online)	The Rise of Reptiles: 320 Million Years of Evolution
T. S. Kemp	2005 (hard copy)	The Origin & Evolution of Mammals
Kenneth D. Rose and J. David Archibald	2005 (hard copy)	The Rise of Placental Mammals: Origins and Relationships of The Major Extant Clades

Contact details

Professor Stephanie E Pierce
Office: MCZ 105
Office hours: Wednesday 10-11am
Email: spierce@oeb.harvard.edu

Phil Fahn-Lai
Office: MCZ 103A
Office hours: TBD
Email: philiplai@g.harvard.edu

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