

H. C. Maddin, HP 2239
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ERTH 3111

Vertebrate Evolution II – Evolution of mammals, reptiles and birds

Lecture: Thursday 2:35pm – 4:25pm Lab: Monday 2:35-5:25pm
Lecture office hour: by appointment

Course objectives

Learn details of the anatomy of living and extinct amniotes, and comparative anatomy between groups of amniotes.

Understand currently accepted patterns of relationships between major amniote groups.

Describe key evolutionary events in the origin and radiation of mammals, reptiles and birds.

Integrate evolutionary mechanisms (developmental & functional) with patterns of diversity in amniotes.

Learning outcomes

By the end of this course, students will be able to...

Recall the anatomy of amniotes.

Describe and **evaluate** patterns of relationships between major amniote groups.

Describe key evolutionary events in the origin and radiation of amniotes.

Integrate evolutionary mechanisms with patterns of diversity in amniotes.

Lecture materials

Textbook: Vertebrate Palaeontology, by M. J. Benton

Mark breakdown

Lecture mid-term 20%

Lab activities 40%

Term project 20% (see project syllabus)

Final lecture exam 20%

Lecture schedule

Jan 14 Lecture 1: Introduction & review concepts

Jan 21 Lecture 2: Amniote origins & basal synapsids

Jan 28 Lecture 3: Mammal origins – Dr. Miyashita

Feb 4 Lecture 4: Mammals – Dr. Fraser

Feb 11 Lecture 5: Early reptiles

Feb 25 Lecture 6: Marine reptiles – Dr. Wu

March 4 in class mid-term (covering Lectures 1–5)

Mar 11 Lecture 7: Lepidosauria

Mar 18 Lecture 8: Archosauria

Mar 25 Lecture 9: Ornithodira & Dinosauria 1 (Ornithischia) – Dr. Mallon

Apr 1 Lecture 10: Dinosauria 2 (Saurischia) – Mr. Mcfeeters

Apr 8 Lecture 11: Birds

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Academic Integrity

Academic integrity is taken very seriously in the Department of Earth Sciences, and Carleton University in general. Refer to the following document for policies and explanations of activities included with academic integrity.

<https://carleton.ca/registrar/academic-integrity/>

Some examples of violations that will not be tolerated include:

Plagiarism: submitting work written in part or whole by someone else, failing to acknowledge sources through proper use of citations.

Resubmission: resubmitting work from another or the same course (if repeated).

Test/exam behavior: attempting to read another student's paper, speaking/messaging another student during the exam, using material not authorized by examiner.

Improper/unauthorized dissemination: providing access or receiving access to confidential materials (e.g. exam questions), and distribution of course materials.

Violations will be taken very seriously and may involve the Department Chair, and/or the Dean. Sanctions for such violations may include grade of zero, decreased course grade, remediation, withdrawal from the course, or more.

Requests for Academic Accommodation

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc

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Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline