STUDENT WARNING: This course syllabus is from a previous semester archive and serves only as a preparatory reference. Please use this syllabus as a reference only until the professor opens the classroom and you have access to the updated course syllabus. Please do NOT purchase any books or start any work based on this syllabus; this syllabus may NOT be the one that your individual instructor uses for a course that has not yet started. If you need to verify course textbooks, please refer to the online course description through your student portal. This syllabus is proprietary material of APUS.

Course Summary

Description

Course Description: The origin, diversity, and adaptations of the vertebrates. Phylogenetic systematics (cladistics) will be used as the basis for determining evolutionary relationships of organisms. Monophyletic groupings provide a framework for examining behavior, physiology, and ecology in an explicit evolutionary context. Vertebrates common to North America will be emphasized. (Prerequisite: SCIN130 or BIOL134)

Course Scope:

This course provides a foundational understanding of the biology of vertebrates of the world. Topics at the beginning of the course explore the early evolutionary history and anatomical characteristics of vertebrates. Major phylogenetic groups of vertebrates will be identified and studied with emphasis placed on North American vertebrates. The progression of study through vertebrates as the course progresses is as follows: cartilaginous fishes; bony fishes; salamanders, anurans, and caecilians; turtles and lepidosours; crocodilians and birds; and mammals. Key innovations of each major group will be discussed such as amniotic egg structure, ectothermy, endothermy, aquatic ecology and physiology, terrestrial ecology and physiology, flight, reproductive strategy variation, and lactation. Course assignments include interactive learning opportunities with these specific topics: extant vertebrate diversity, bird migration, multimodal lizard behavior, and fish reproductive strategies. Core concepts are applied to the current ecological, evolutionary, and conservation situations of vertebrates.

Objectives

After successfully completing this course, you will be able to

- **LO-1** Describe vertebrate evolution from protovertebrates to mammals.
- **LO-2** Interpret vertebrate classification and phylogenetics.
- **LO-3** Extrapolate the biology of vertebrates to basic physiological, evolutionary, and ecological concepts.
- **LO-4** Compare and contrast major vertebrate groups and their salient features.
- **LO-5** Analyze factors impacting vertebrate animal populations in natural communities.

Outline

Week 1: Vertebrate Characteristics and Early Evolution
Learning Objectives
LO-1
LO-2

Readings

**Text Readings:**
*Pough et al. Vertebrate Life*
**Chapter 1** The Diversity, Classification, and Evolution of Vertebrates
**Chapter 2** Vertebrate Relationships and Basic Structure
**Chapter 3** Early Vertebrates: Jawless Vertebrates and the Origin of Jawed Vertebrates

**In Course Materials:**
*SCIN 310 Course Syllabus*

Assignment

**Forum Assignment Week 1**

**Week 2: Aquatic Vertebrates I: Chondrichthyes- Cartilaginous Fishes**

Learning Objectives
LO-1
LO-3
LO-4

Readings

**Text Readings:**
*Pough et al. Vertebrate Life*
**Chapter 4** Living in Water
**Chapter 5** Radiation of the Chondrichthyes

Assignment

**Case Study- Local Species Account:** Fish

**Forum Assignment Week 2**

**Quiz Week 2** covering Chapters 1-3

**Week 3: Aquatic Vertebrates II: Fishes**

Learning Objectives
LO-1
LO-3
LO-4
LO-5

Readings

Text Readings:
*Pough et al. Vertebrate Life*

**Chapter 6** Dominating Life in Water: The Major Radiation of Fishes
(Chapter 7 Geography and Ecology of the Paleozoic)

Assignment

Forum Assignment Week 3

Quiz Week 3 covering Chapters 4-6

Week 4: Land Vertebrates I: Salamanders, Anurans, and Caecilians

Learning Objectives

LO-1

LO-3

LO-4

Readings

Text Readings:
*Pough et al. Vertebrate Life*

**Chapter 8** Living on Land

**Chapter 9** Origin and Radiation of Tetrapods

**Chapter 10** Salamanders, Anurans, and Caecilians

Assignment

Case Study- Local Species Account: Amphibian, Turtle, Lizard, Snake

Forum Assignment Week 4

Quiz Week 4 covering Chapters 8-10

Week 5: Land Vertebrates II: Turtles and Lepidosaurs

Learning Objectives

LO-1

LO-3

LO-4

Readings

Text Readings:
*Pough et al. Vertebrate Life*

**Chapter 11** Synapsids and Sauropods: Two Approaches to Terrestrial Life

**Chapter 12** Turtles
Chapter 13 The Lepidosaurs: Tuatara, Lizards, and Snakes

Assignment

Forum Assignment Week 5

Quiz Week 5 covering Chapters 11-13

Week 6: Land Vertebrates III: Crocodilians and Birds

Learning Objectives

LO-1

LO-3

LO-4

Readings

Text Readings:
* Pough et al. Vertebrate Life

Chapter 14 Ectothermy: A Low-Cost Approach to Life
(Chapter 15 Geography and Ecology of the Mesozoic)

Chapter 16 Mesozoic Diapsids: Dinosaurs, Crocodilians, and Birds

Chapter 17 Avian Specializations

Assignment

Case Study- Local Species Account: Birds

Forum Assignment Week 6

Quiz Week 6 covering Chapters 14-17

Week 7: Land Vertebrates IV: Mammals

Learning Objectives

LO-1

LO-3

LO-4

LO-5

Readings

Text Readings:
* Pough et al. Vertebrate Life

Chapter 18 The Synapsida the Evolution of Mammals
(Chapter 19 Geography and Ecology of the Cenozoic)

Chapter 20 Mammalian Characteristics and Diversity

Chapter 21 Mammalian Specializations

Assignment
Assignments

Week 7:
- Forum Assignment
- Quiz covering Chapters 18-21
- Research Project: Week 7

Week 8:
- Land Vertebrates IV (cont): Mammals

Learning Objectives

LO-1

LO-3

LO-4

Readings

Text Readings:
- Pough et al. Vertebrate Life
  - Chapter 22 Endothermy: A High-Energy Approach to Life
  - Chapter 23 Body Size, Ecology, and Sociality of Mammals
  - Chapter 24 Primate Evolution and the Emergence of Humans

Assignment

Case Study- Local Species Account: Mammals

Forum Assignment Week 8

Quiz Week 8 covering Chapters 22-24

Evaluation

Forums

There are eight forum activities in this course, one for each week. The student is responsible for participating in each of the eight forums. For all forums, each student will respond answer associated questions as posed by the forum instructions, offer his/her analysis to the questions posed, and respond substantively to at least two classmate posts. The initial student forum response will contain significant thought and analysis, utilize outside reference sources, and contain at least 300 words. Initial forum responses are completed by Wednesday each week. Responses to classmate posts are significant and substantive by asking probing questions, emphasizing points of agreement, and clearly discussing points of difference (i.e., the posts contain more content than “I agree.”) Classmate response posts are a minimum of 75 words and are completed by Sunday each week.

Case Studies: Local Species Accounts

There are four Case Study assignments that will be completed in this course. The goal of the Case Study: Local Species accounts is to become more familiar with vertebrate species in your local area. Specific, detailed instructions and the list of potential topics and activities can be found in the online classroom. Plagiarism is not tolerated and will result in a zero score, at minimum. If you have any questions about proper citation and what consists of plagiarism please ask.

Quizzes
Seven quizzes will cover the reading material from the Pough et al. *Vertebrate Life* textbook. Each quiz is open-book and open-note. It is expected that each quiz represents the student’s individual efforts. Each quiz contains multiple-choice questions and is not proctored. The student must submit quizzes exam before 11:55 PM EST on Sunday night of the week assigned. It is important that the student does not access the quiz until ready to take the quiz. These are timed quizzes can only be accessed once. Once the quiz is accessed the timer begins. The student will have two hours take each quiz. The student must complete this quiz during its assigned week.

**Research Project (Due Week 7)**

The research project assignments in this course represent the student’s synthesis and research of large scale concepts in Vertebrate Zoology applied to a specific topic or situation. Research projects represent the student’s original work and thought with carefully cited research. The student chooses a research project based specific instructions found in the online classroom. Specific, detailed instructions and the list of potential topics and activities can be found in the online classroom. This research project assignment will require significant time and thought. Since this project will require significant effort it is worth a significant portion of the course grade. *Plagiarism is not tolerated and will result in a zero score, at minimum.* If you have any questions about proper citation and what consists of plagiarism please ask.

Please see the [Student Handbook](#) to reference the University’s grading scale.

**Grading:**

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Materials

**Book Title:** Vertebrate Life, 9th ed - The VitalSource e-book is provided via the APUS Bookstore

**Author:** Harvey

**Publication Info:** Pearson

**ISBN:** 9781269457545

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**Book Title:** You must validate your cart to get access to your VitalSource e-book(s). If needed, instructions are available here - http://apus.libguides.com/bookstore/undergraduate

**Author:** N/A

**Publication Info:** N/A

**ISBN:** N/A

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**Required Technology**

- See the Technology Requirements section of the undergraduate catalog for the minimum hardware and software requirements.

Microsoft Office 365 is available to APUS students for free. To sign up, visit http://products.office.com/en-us/student. If you have questions about accessing the software, please contact Classroom support at classroomsupport@apus.edu.

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**Web Sites**

In addition to the required course texts, the following public domain web sites are useful. Please abide by the university's academic honesty policy when using Internet sources as well. Note web site addresses are subject to change.

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<tr>
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</table>
Course Guidelines

Citation and Reference Style

- Attention Please: Students will follow the APA Format as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA Format.

Tutoring

- Tutor.com offers online homework help and learning resources by connecting students to certified tutors for one-on-one help. AMU and APU students are eligible for 10 free hours* of tutoring provided by APUS. Tutors are available 24/7 unless otherwise noted. Tutor.com also has a SkillCenter Resource Library offering educational resources, worksheets, videos, websites and career help. Accessing these resources does not count against tutoring hours and is also available 24/7. Please visit the APUS Library and search for 'Tutor' to create an account.

Late Assignments

- Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. The due date for each assignment is listed under each Assignment.
- Generally speaking, late work may result in a deduction up to 15% of the grade for each day late, not to exceed 5 days.
- As a working adult I know your time is limited and often out of your control. Faculty may be more flexible if they know ahead of time of any potential late assignments.

Turn It In

- Faculty may require assignments be submitted to Turnitin.com. Turnitin.com will analyze a paper and report instances of potential plagiarism for the student to edit before submitting it for a grade. In some cases professors may require students to use Turnitin.com. This is automatically processed through the
Assignments area of the course.

**Academic Dishonesty**

- Academic Dishonesty incorporates more than plagiarism, which is using the work of others without citation. Academic dishonesty includes any use of content purchased or retrieved from web services such as CourseHero.com. Additionally, allowing your work to be placed on such web services is academic dishonesty, as it is enabling the dishonesty of others. The copy and pasting of content from any web page, without citation as a direct quote, is academic dishonesty. When in doubt, do not copy/paste, and always cite.

**Submission Guidelines**

- Some assignments may have very specific requirements for formatting (such as font, margins, etc) and submission file type (such as .docx, .pdf, etc) See the assignment instructions for details. In general, standard file types such as those associated with Microsoft Office are preferred, unless otherwise specified.

**Disclaimer Statement**

- Course content may vary from the outline to meet the needs of this particular group.

**Communicating on the Forum**

- Forums are the heart of the interaction in this course. The more engaged and lively the exchanges, the more interesting and fun the course will be. Only substantive comments will receive credit. Although there is a final posting time after which the instructor will grade comments, it is not sufficient to wait until the last day to contribute your comments/questions on the forum. The purpose of the forums is to actively participate in an on-going discussion about the assigned content.
- “Substantive” means comments that contribute something new and hopefully important to the discussion. Thus a message that simply says “I agree” is not substantive. A substantive comment contributes a new idea or perspective, a good follow-up question to a point made, offers a response to a question, provides an example or illustration of a key point, points out an inconsistency in an argument, etc.
- As a class, if we run into conflicting viewpoints, we must respect each individual's own opinion. Hateful and hurtful comments towards other individuals, students, groups, peoples, and/or societies will not be tolerated.

**University Policies**

**Student Handbook**

- [Drop/Withdrawal policy]
- [Extension Requests]
- [Academic Probation]
- [Appeals]
- [Disability Accommodations]

The mission of American Public University System is to provide high quality higher education with emphasis on educating the nation’s military and public service communities by offering respected, relevant, accessible, affordable, and student-focused online programs that prepare students for service and leadership in a diverse, global society.
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