

BIOL 307 Chordate Zoology Syllabus

General Course Information

Welcome to Chordate Zoology! This course will provide an introduction to the diversity, anatomy, ecology, and behaviour of chordate animals. The Biology 307 Laboratories will provide you with the opportunity to gain an appreciation for the relationship between form and function of chordates and will attempt to do so by taking a comparative approach. The lectures will complement this by providing ecological and evolutionary context of chordate adaptations.

Lecture Contact Location & Hours

Cornett Building A120

A01 - Tuesday, Wednesday & Friday, 10:30am - 11:20am

Laboratory Contact Location & Hours

Petch Building 110

B01 - Monday 2:30pm-5:20pm, or

B02 - Monday 5:30pm-8:20pm, or

B04 - Tuesday 2:30pm-5:20pm, or

B05 - Tuesday 5:30pm-8:20pm.

****enrollment in a laboratory section is mandatory***

Prerequisites

BIOL 184, BIOL 186, or written permission from the Course Coordinator (David Punzalan).

About the Instructors

This course is co-taught by Dr. David Punzalan (Lectures, and Course Coordination) and Dr. Roswitha Marx (Laboratory Coordination). Dave is an evolutionary ecologist, originally hailing from Toronto, Ontario. Although broadly trained in zoology, he admits to having spent most of his 'good years' chasing terrestrial and freshwater non-chordates (e.g. insects, spiders, and crustaceans). As a new (2019) transplant to Victoria, he spends most weekends learning about biodiversity in the Pacific Northwest, often staring into tidepools or beachcombing. Rossi is a neurobiologist by training who is in awe of nature and fascinated by how organisms and their systems function. She very much appreciates that we will be able to have many of the specimens from the department's collection on display in the BIOL 307 labs and hopes that you will share her excitement.

Contacting the Instructors

Dave is available to meet by appointment (davidpunzalan@uvic.ca).

Rossi is available to meet by appointment (zoology@uvic.ca).

****please include "BIOL 307" in the subject line of e-mails, and expect a response within 48h.***

Course Website and Materials

- 1) Course Spaces (CS) website: <https://coursespaces.uvic.ca/course/view.php?id=72794>
Please check this page regularly for important information and announcements.
- 2) Lecture slides: electronic (.pdf) versions of the lectures will be posted on CS after class.
- 3) Lab materials: there is no lab manual for this course. Lab write-ups will be posted on CS the week before each lab. Also check CS for information regarding assignments.
- 4) Optional textbook: **Kardong, K. V. 2019. *Vertebrates: Comparative Anatomy, Function, Evolution*. 8th Edition. McGraw-Hill Education, New York.**
(A list of required readings will be posted on the course website)
- 5) iClicker* is required for lecture activities: <https://www.uvic.ca/til/services/iclicker/index.php>
*iClicker Cloud (aka REEF) polling from your own device (smartphone, laptop, tablet etc.) is an alternative but requires you to pay for a subscription ☹️
https://www.uvic.ca/til/services/home/services_reefpolling/index.php

Intended Learning Outcomes

This course is designed to provide information that is of fundamental scientific interest and importance but also to impart skills that are valuable in a professional scientific career (in biology and elsewhere). After completion of this course, you will be able to successfully identify and classify the major groups of living (extant) chordate animals based on anatomical features. You will recognize differences among these groups in skeletal, respiratory, and nervous systems and understand their evolutionary origins and ecological context (*i.e.* phylogeny and functional morphology). You will possess the foundational skills for generating and testing hypotheses using comparative data, as well as skills in cooperative learning and effective communication of scientific information.

Assessment

You will have the opportunity to demonstrate your progress and proficiency through various forms of evaluation, including

Lab Content (breakdown provided separately)	50%
Biology Careers Exercise	3%
Participation in Lecture Exercises (iClicker)	2%
Midterm on Lecture Material (Feb 14, 2020)	15%
+	
[Option 1:]	
Final Exam on Lecture Material (cumulative)	30%
OR	
[Option 2:]	
Final Exam on Lecture Material (cumulative)	20%
+	
Research paper (details provided separately)	10%

Please note: you must pass both (lecture and laboratory) sections to pass the course

Tentative Lecture and Laboratory Schedule

Week (beginning)	Lecture	Laboratory
0 (Jan 6)	Course info & introductions, Defining chordate characters, Adaptation, form & function	No labs
1 (Jan 13)	Chordate origins, Phylogenetic hypotheses & methods	Introduction to chordates / Workshop
2 (Jan 20)	Life in the ocean, Aquatic/marine adaptations, *Careers workshop intro	Integument
3 (Jan 27)	Feeding & Locomotion, Sensory systems, *Careers workshop Part I	Cranial skeleton and central nervous system
4 (Feb 3)	Skeletal evolution, Life history, Studying vertebrates in the wild	Axial skeleton / Workshop
5 (Feb 10)	Major classification, Non-vertebrate chordates, MIDTERM TEST	Appendicular skeleton
<i>Reading Break</i>		
6 Feb (24)	Sharks & bony fish, Reproduction I, *Ocean Networks Canada	Fish dissection
7 (Mar 2)	Adaptations to life on land, Amphibians, Conservation and IUCN	Frog dissection
8 (Mar 9)	Reproduction II (amniotic egg), Reptiles & Birds, Evolution of flight	Bird dissection
9 (Mar 16)	Endothermy, Mammals, *Science communication	Mammal dissection
10 (Mar 23)	Evolutionary trends, Convergent evolution, Careers workshop Part II	Oral / Poster Presentations
11 (Mar 30)	Extinction & de-extinction, Animal rights & ethics	Oral / Poster Presentations
<i>Asterisks (*) indicate guest lectures</i>		

Appendix: Policies

Academic Integrity

The University of Victoria and the Department of Biology take academic integrity (including plagiarism) as a serious matter. Please read this:
<https://web.uvic.ca/calendar2020-01/undergrad/info/regulations/academic-integrity.html>

Missed examinations and assignments

The University of Victoria accepts three types of valid excuses for missed exams or assignments on the date the exam occurred or the assignment was due:

- illness
- emotional trauma
- UVic-sponsored sporting activities

You are expected to contact your instructors (and/or Teaching Assistant if applicable), as soon as possible, and you must provide appropriate documentation (a note from your doctor, counseling services, UVic coaching staff, etc.). If the midterm is missed (with valid excuse). If the Final Exam is missed (with valid excuse), arrangements must be made to: 1) write the exam before the end of the exam period, or 2) request an Academic Concession in order to write the exam at a later date.

Accessibility and special needs

Students with special needs will be welcomed and accommodated, provided those needs are registered through the Centre for Accessible Learning
<https://uvic.ca/services/cal>
(Campus Services Building, rm 150; phone 250-472-4947)

Commitment to Inclusion and diversity

UVic is committed to promoting, providing and protecting a supportive and safe learning and working environment for all its members.

Course Grade and Academic Transcript

Grades for all UVic courses are submitted as percentiles. A student's academic transcript will include the percentile grade and a letter grade plus the class average and the number of students registered in the course at the time of the final exam. Percentiles will be rounded to the nearest whole number; a grade of xx.5 will be rounded up. Percentile grades will be converted to letter grades on the student's academic transcript according to the table given below.

A+	90 – 100%	B+	77 – 79%	C+	65 – 69%
A	85 – 89%	B	73 – 76%	C	60 – 64%
A-	80 – 84%	B-	70 – 72%	D	50 – 59%

<p style="text-align: center;">F (Fail) is a grade less than 50% No supplemental exams will be offered for this course</p>
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