



### COURSE OUTLINE

1. **Course:** ZOOL 403, An Introduction to Vertebrate Zoology - Fall 2023

**Coordinator(s)**

Name	Email	Phone	Office	Hours
Dr Jessica Theodor	jtheodor@ucalgary.ca	403 210-9819	BI 353	M, 11 am- 12 pm and F 1 pm - 2pm, BI 192 Drummond Hall, past the BIO office and computer lab

**Section(s)**

Lecture 01 : MWF 10:00 - 10:50 in SA 104

Instructor	Email	Phone	Office	Hours
Dr Jessica Theodor	jtheodor@ucalgary.ca	403 210-9819	BI 353	M, 11 am- 12 pm and F 1 pm - 2pm, BI 192 Drummond Hall, past the BIO office and computer lab
Dr. Kelsey Lucas	kelsey.lucas@ucalgary.ca	403 220-7202	BI 286B	M, 11 am- 12 pm and F 1 pm - 2pm, in Drummond Hall (BI 192), past the BIO office and computer lab

Email: We will respond to your email inquiries about the course within **24 hours** except on weekends and holidays.

To account for any necessary transition to remote learning for the current semester, courses with in-person lectures, labs, or tutorials may be shifted to remote delivery for a certain period of time. In addition, adjustments may be made to the modality and format of assessments and deadlines, as well as to other course components and/or requirements, so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff).

**In Person Delivery Details:**

The labs will be in person, beginning the week of Sept. 10. There will be an introductory pre-lab online for the first week of class, to be completed anytime before the first in-person lab. There will be an online quiz after each group of organisms (so every two weeks), and an in-person lab practical exam during your regular lab period in the week of Nov. 27.

Dates	
Sept. 5-7	<b>NO LAB, (prelab on D2L)</b>
Sept. 12/14	Fishes: diversity
Sept. 19/21	Fishes: form and function
Sept. 26/28	Amphibians: diversity - online lab quiz on fishes
Oct. 3/5	Amphibians: form and function
Oct. 10/12	Mammals: diversity - online lab quiz on amphibians
Oct. 17/19	Mammals: form and function
Oct. 24/26	Squamates and Turtles: diversity - online lab quiz on mammals
Oct. 31/Nov. 2	Squamates and Turtles: form and function
Nov. 7/9	Archosaurs: diversity - online lab quiz on squamates and turtles
Nov. 14/16	<b>READING BREAK - NO LAB</b>
Nov. 21/23	Archosaurs: form and function
Nov. 28/30	<b>LAB EXAM</b>

**Safety protocol:** The lab is crowded and you will not be able to maintain distances of 2 m or greater, so students are strongly recommend to wear a mask (not provided) and gloves (provided) in the lab while handling specimens.

Due to the design of the course, the same material will be available in the lab for 2 weeks, and then is returned to collections storage. This limits the opportunities to make up a missed in-person lab. Accommodations for a missed in-person meeting can be made if the absence is known in advance, and on a case by case basis in the case of

illness or other unforeseen absence.

Photography will be not permitted in the lab. Students found photographing specimens will be asked to leave the lab.

**Course Site:**

D2L: ZOOL 403 L01-(Fall 2023)-An Introduction to Vertebrate Zoology

**Note:** Students must use their U of C account for all course correspondence.

Lectures will be in person.

Lecture schedule:

Week 1: 06/09 - Course introduction

08/09 - Vertebrate development

Week 2: 11/09 - Jawless fishes

13/09 - Jawed fishes

15/09 - Cartilaginous fishes

Week 3: 18/09 - Cartilaginous fishes continued

20/09-22/09 - Ray-finned fishes

Week 4: 25/09 - Fish function and ecology

27/09 - Fleshy-finned fishes and the origin of tetrapods

29/09 The transition to land

Week 5: 02/10 - Tetrapoda and living on land

04/10 - 06/10 - Amphibians

Week 6: 09/10 **Thanksgiving, no lecture**

11/10 -13/10 - Amphibians

Week 7: 16/10 - Amphibians

18/10 - Mammals

20/10 - **Midterm exam** covering up to Oct. 17

Week 8: 23/10-27/10 Mammals

Week 9: 30/10-01/11 Mammals

03/11Turtles

Week 10: 06/11-08/11 Turtles

10/11 Lizards and snakes

READING WEEK

Week 11: 20/11-22/11 Lizards and snakes

24/11 Crocodiles

Week 12: 27/11 - 1/12 Birds

Week 13: 4/12 - 6/12 Birds

**Equity Diversity & Inclusion:**

The University of Calgary is committed to creating an equitable, diverse and inclusive campus, and condemns

harm and discrimination of any form. We value all persons regardless of their race, gender, ethnicity, age, LGBTQIA2S+ identity and expression, disability, religion, spirituality, and socioeconomic status. The Faculty of Science strives to extend these values in every aspect of our courses, research, and teachings to better promote academic excellence and foster belonging for all.

The Biological Sciences Equity Committee acknowledges there are persistent barriers that prevent such accessibility and hinder our progress towards EDI. Our representatives (faculty, staff, postdocs, graduate and undergraduate students) are committed to addressing any concerns and work towards proactive solutions that enact necessary change within the department. To submit anonymous questions, comments or concerns regarding EDI related issues, please reach out to our Chair, Arshad Ayyaz ([\\_arshad.ayyaz@ucalgary.ca](mailto:_arshad.ayyaz@ucalgary.ca)), or a committee representative of your choice at <https://science.ucalgary.ca/biological-sciences/about/equity-diversity-and-inclusion>

## 2. Requisites:

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

### Prerequisite(s):

Biology 371.

### Antirequisite(s):

Credit for Zoology 403 and either Zoology 477.01 (Birds And Mammals) or 477.02 (Fishes, Amphibians & Reptiles) will not be allowed. Also known as: (formerly Zoology 379)

## 3. Grading:

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar.

In determining the overall grade in the course the following weights will be used:

Course Component	Weight	Due Date (duration for exams)	Modality for exams	Location for exams
Lab assignments (notebook) <sup>1</sup>	25%	Ongoing		
Lab Quizzes (4 in total) <sup>2</sup>	10%	Ongoing		
Surveys <sup>3</sup>	3%	Ongoing		
Midterm exam	22%	Oct 20 2023 at 10:00 am (50 Minutes)	in-person	In class
Final lab exam <sup>4</sup>	15%	Nov 28 2023		
Registrar Scheduled Final Exam	25%	Will be available when the final exam schedule is released by the Registrar	in person	Will be available when the final exam schedule is released by the Registrar

<sup>1</sup> Schedule available on D2L.

<sup>2</sup> Schedule available on D2L.

<sup>3</sup> Schedule available on D2L.

<sup>4</sup> Nov. 28 or 30 in laboratory.

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
<b>Minimum % Required</b>	90 %	85 %	80 %	77%	73%	70 %	67 %	63%	60%	55 %	50 %

This course will have a Registrar Scheduled Final exam that will be delivered in-person and on campus. [The Final Examination Schedule](#) will be published by the Registrar's Office approximately one month after the start of the term. The final exam for this course will be designed to be completed within 2 hours.

Students must earn a passing grade (50%) in the lab component in order to pass the course, and if they earn less than that mark, the highest grade they can earn is a D+.

Students may earn bonus points through the term by submitting work as outlined on D2L for up to an additional

4% of the final course mark.

The University of Calgary offers a [flexible grade option](#), Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade>

#### 4. **Missed Components Of Term Work:**

In the event that a student legitimately fails to submit any online or in-person assessment on time (e.g. due to illness, domestic affliction, etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date, or possible exemption and reweighing of components. Absences not reported within 48 hours will not be accommodated. Students may be asked to provide supporting documentation ([Section M.1](#)) for an excused absence, See [FAQ](#).

If an excused absence is approved, options for how the missed assessment is dealt with is at the discretion of the coordinator or course instructor. Some options such as an exemption and pro-rating among the components of the course may not be a viable option based on the design of this course.

Labs that are submitted beyond the deadline will not be accepted for marking unless the student contacts the course coordinator (Dr. Theodor) or their TA before the assignment is due or up to 48 h afterwards in case of emergency/illness.

#### 5. **Scheduled Out-of-Class Activities:**

There are no scheduled out of class activities for this course.

#### 6. **Course Materials:**

Required Textbook(s):

F. Harvey Pough, Christine M. Janis, *Vertebrate Life, 11th Edition (or 10th)*: Sinauer.

Lab materials will be in the Lab folder on the course D2L site.

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

## 7. Examination Policy:

The lab quizzes will be made available immediately after your scheduled lab period ends for that unit and will be available until just before your next lab period. Quizzes are designed to be able to be completed in 30 minutes, but to allow for technical issues, you will be given 2 hours to complete the quiz once you begin it.

The midterm exam is in person is designed to take 50 minutes in class. It includes written questions and an essay question component, as will the final exam.

The lab final exam will be in person, in the lab, in the final lab. This will be a practical exam with 24 stations maximum. Each station will have 1-4 questions based on the specimens at the station, and you will have two minutes to answer the questions before rotating to the next station. The entire exam will not exceed 1 hour in length. Because the lab exam involves animal specimens, students requiring accommodations will make arrangements with course staff, not the Exam Centre, for this exam only.

**IMPORTANT:** It is the student's responsibility to ensure they have adequate computer and internet access to write the quizzes. If a student encounters any technical issues starting a quiz, they **must** document the issue by taking a photo, screenshot, or video, and they must contact the instructor immediately so that either additional time can be provided to access the quiz or alternative arrangements made.

The quizzes are open book, meaning that you may access your lecture/lab notes or the textbook. No other aids are allowed on quizzes, including accessing internet resources such as search engines (Google etc), other websites, shared documents (Google docs etc) or chat servers (Discord, WhatsApp etc), etc., and you are specifically prohibited from working with or contacting any other individuals while you complete the quiz.

During the lab final exam, you may bring a prepared sheet of paper (8.5"x11") with any notes you wish on both sides. Be aware, however, that you will not have much time to consult these notes so they must be well organized and easy to read for you to make the best use of them.

Students should also read the Calendar, [Section G](#), on Examinations.

## 8. Approved Mandatory And Optional Course Supplemental Fees:

There are no mandatory or optional course supplemental fees for this course.

## 9. Writing Across The Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

## 10. Human & Living Organism Studies Statements:

If you agree, your course work may be used for research purposes. Your responses will remain anonymous and confidential. Grouped data (no individual responses) may be used in academic presentations and publications. Participation in such research is voluntary and will not influence grades in this course. Students' signed consent forms will be withheld from instructors until after final grades are submitted. More information will be provided at the time student participation is requested.

See also [Section E.5](#) of the University Calendar.

**STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS.** Students taking laboratory and field-based courses in these disciplines can expect involvement with and experimentation on such materials. Students perform dissections on dead or preserved organisms in some courses. In particular courses, students experiment on living organisms, their tissues, cells, or molecules. Sometimes field work requires students to collect a variety of living materials by many methods, including humane trapping.

All work on humans and other animals conforms to the Helsinki Declaration and to the regulations of the Canadian Council on Animal Care. The Department strives for the highest ethical standards consistent with stewardship of the environment for organisms whose use is not governed by statutory authority. Individuals contemplating taking courses or majoring in one of the fields of study offered by the Department of Biological Sciences should ensure that they have fully considered these issues before enrolling. Students are advised to discuss any concern they might have with the Undergraduate Program Director of the Department.

Students are expected to be familiar with [Section SC.4.1](#) of the University Calendar.

## 11. Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request

a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work [form](#) to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the University Calendar
- b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

Requests for grade reappraisal must be submitted in writing with an explanation of the reason for the regrade request. Regrades are not necessarily limited to a single exam question and the entire examination or assignment may be regraded.

## 12. Other Important Information For Students:

- a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- b. **SU Wellness Services:** For more information, see their [website](#) or call [403-210-9355](#).
- c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email ([svsa@ucalgary.ca](mailto:svsa@ucalgary.ca)) or phone at [403-220-2208](#). The complete University of Calgary policy on sexual violence can be viewed [here](#).
- d. **Student Ombuds Office:** A safe place for all students of the University of Calgary to discuss student related issues, interpersonal conflict, academic and non-academic concerns, and many other problems.
- e. **Student Union Information:** [SU contact](#), Email your SU Science Reps: [science1@su.ucalgary.ca](mailto:science1@su.ucalgary.ca), [science2@su.ucalgary.ca](mailto:science2@su.ucalgary.ca), [science3@su.ucalgary.ca](mailto:science3@su.ucalgary.ca),
- f. **Academic Accommodation Policy:**

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Lisa Gieg by email [imgieg@ucalgary.ca](mailto:imgieg@ucalgary.ca) preferably 10 business days before the due date of an assessment or scheduled absence.

- g. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)  
[Student Academic Misconduct Policy](#) and [Procedure](#)  
[Faculty of Science Academic Misconduct Process](#)  
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

- h. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.
- i. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.
- j. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.

#### **Course Learning Outcomes:**

By the end of this course you will be expected to:

1. Contrast the features that distinguish vertebrates from other metazoans
2. Describe the major clades of vertebrates, their distribution, life history and evolutionary relationships
3. Explain the links between vertebrate metabolism and life history
4. Identify vertebrate specimens to major clade
5. Document vertebrate specimens using appropriate vocabulary and labels
6. Identify the locomotor and feeding mode of vertebrates

Electronically Approved - Aug 28 2023 09:59

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**Department Approval**