



BIOL 184 – Evolution and Biodiversity

Course Syllabus

Fall 2026

General Course Information

Welcome! This course will survey biological diversity – prokaryotes, protists, plants, fungi and animals – and will use a fundamental fact of the living world, evolution, to tie together this diversity. We will introduce you to population genetics and evolution. The course will be taught synchronously and ‘face-to-face’ and will be complemented by online tools.

Lecture and Lab Contact Hours and Locations

Mondays & Thursdays @

8:30am-9:50am (A01) in Bob Wright Centre (BWC) B150, or

11:30am-12:50pm (A02) in Bob Wright Centre (BWC) B150, or

3:30pm- 4:50pm (A03) in Engineering & Computer Science (ECS) 123

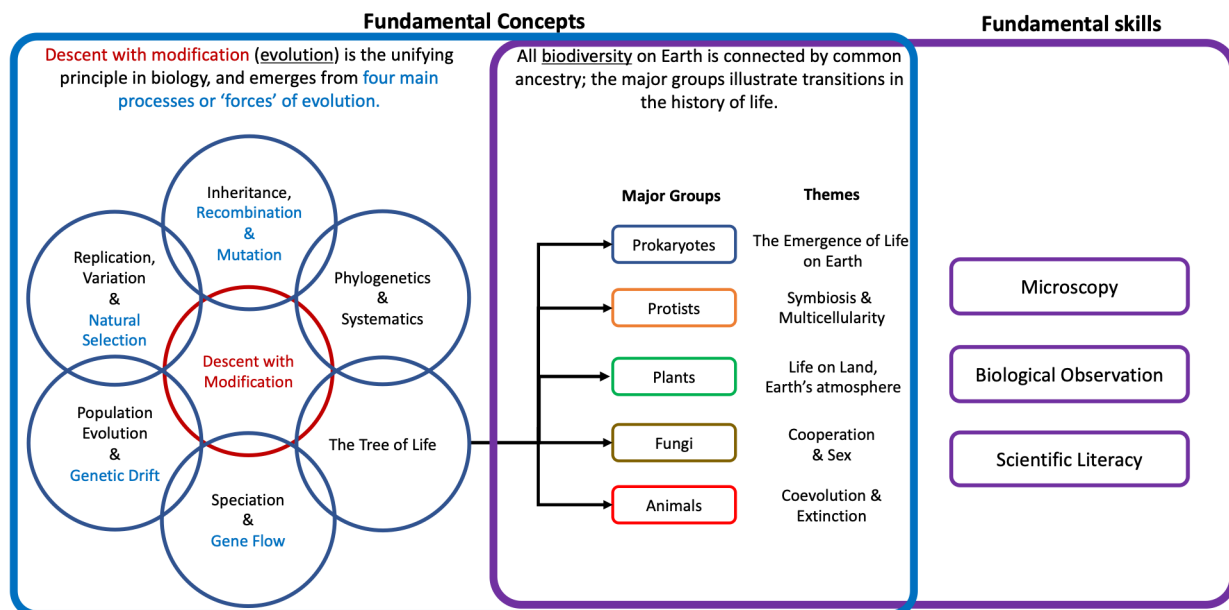
Labs take place in Cun004, Cun018 or Cun240 – check your registration for lab times and locations

NOTE: *Enrolment/attendance in a laboratory section is mandatory*

Intended Learning Outcomes

After completion of this course, you will be able to demonstrate a solid understanding of the evolutionary process, and the logical and quantitative basis of its study. You will be able to classify the major groups of organisms based on hypothesized evolutionary relationships. You will be able to demonstrate fundamental skills including microscopy, biological observations, and interpreting phylogenetic trees. Identifying different types of scientific literature and understanding of/adherence to academic integrity standards are also essential learning outcomes. A graphical representation of the intended learning outcomes also appears below.

BIOL 184 COURSE CONCEPT MAP & LECTURE & LAB LEARNING OUTCOMES



Territory Acknowledgment

The instructors of BIOL184 are grateful to live and work in the unceded territories of the Lekwungen speaking First Nations, and we support the University of Victoria's official territory acknowledgment:

We acknowledge and respect the Lək̓ʷəŋən (Songhees and X̱wsep̓səm/Esquimalt) Peoples on whose territory the university stands, and the Lək̓ʷəŋən and W̱SÁNEĆ Peoples whose historical relationships with the land continue to this day.

Guiding Philosophy and Practices

Students and instructors share the responsibility of cultivating of a **safe, inclusive, and kind** learning environment. We think that the keys to student success (in the course, and beyond) lies in practicing strong learning habits, developing resilience, and fostering a healthy mind, as well as healthy relationships. We also believe in having fun.

Inclusivity Statement:

We consider our classroom to be a place where you will be treated with respect, and we welcome individuals of all ages, backgrounds, beliefs, ethnicities, genders, gender identities, gender expressions, national origins, religious affiliations, sexual orientations, ability and other visible and non-visible differences. All members of this class are expected to be a part of a respectful, welcoming and inclusive environment for every member of the class. We will gladly honour your request to address you by an alternate name or gender pronoun. Please advise us of this early in the semester, if applicable to you, so that we may make appropriate changes to our records.

Prerequisites

Any one of: Biology 11, Biology 12, Biology 150A, Biology 150B, Biology 186. You may also take this course if you have a high school biology course from outside British Columbia, or a post-secondary biology course from another institution. A course in chemistry at either the high school or university level is strongly recommended. If in doubt, contact davidpunzalan@uvic.ca.

Instructors

Dr. David Punzalan (davidpunzalan@uvic.ca)

Dr. Colin MacLeod (biologylabs@uvic.ca)

Dr. Sarah Lane (biologylabs@uvic.ca)

About the Instructors

This course is co-taught by Dr. David Punzalan (Lectures and Course Coordination), and Dr. Colin MacLeod (Laboratory Coordination). Dave originally hails from Ontario and specializes in insect ecology and evolutionary biology; he spends most of his free time learning about local biodiversity by chasing bugs, paddleboarding, and snorkelling. Colin is passionate about parasites, marine invertebrates, and experimental design; he has studied in Scotland, Canada, and New Zealand. Sarah loves plants and people, and specializes in research involving plant chemistry with human impacts; she grew up on Vancouver Island and spends most of her free time entangled in yarn, playing games, or cooking. You can find out more about the instructors under 'Course Information' on Brightspace.

Required Materials and Technology

1. This course will require students to meet the UVic minimum technology requirements: <https://www.uvic.ca/systems/student/index.php>
2. Brightspace (BRS) will serve as the primary means of sharing learning resources, so please check regularly for important information and announcements.
3. Textbook: OpenStax Biology 2e (<https://openstax.org/details/books/biology-2e>); this textbook can be downloaded for free; if you want a printed version, you must purchase one directly from OpenStax.
4. Lecture materials: slides + audio will be recorded and will be posted on Brightspace (BRS) along with electronic (.pdf) versions of the lecture slides. Lecture documents will be posted on BRS (<https://bright.uvic.ca/d2l/home/501390>)
5. Lab materials: Hardcopy lab manual available from the bookstore (<https://www.uvicbookstore.ca/text/book/40064019309>) and a lab coat, which can be purchased from the UVic Bookstore. Lab documents will be posted on BRS (<https://bright.uvic.ca/d2l/home/501390>)

Assessment

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

Lecture Component (60%)

Lecture Test 1	4%
Lecture Test 2	6%
Lecture Test 3	5%
Lecture Final Exam (course requirement)	45%

Laboratory Component (40%)

*Out-of-Lab Assignment 1: Science Communication	2%
*Out-of-Lab Assignment 2: Finding and Referencing Scientific Literature	3%
*Out-of-Lab Assignment 3: Plotting Daphnia Swim Speeds in Excel	3%
*Out-of-Lab Assignment 4: Organismal Design Project	3%
In-Lab Assignments (5)	15%
Lab Exam	14%
*To access these assignments, you must first complete the Integrity in Practice quiz on Brightspace	

To pass the course, students must:

- 1) Write the **Lecture Final Exam**
- 2) Meet the minimum **lab** attendance requirement (attend at least 4 of the 5 **in-person** labs)
- 3) Score a grade of 50%, or greater in EACH of the **Lecture** and **Laboratory** components.

If any of 1 or 2 are not completed, the student will automatically fail the course and receive an "N" ('Incomplete') on their transcript. If a student successfully completes 1 and 2, but is not successful in 3, they will receive an "F" on their transcript.

Additional inquiries and Contact Hours

Lecture content: There are no scheduled office hours to review lecture content, but any questions should be made using the appropriate discussion forum on Brightspace:

[\[https://bright.uvic.ca/d2l/le/501390/discussions/topics/235322/View\]](https://bright.uvic.ca/d2l/le/501390/discussions/topics/235322/View)

Additional inquiries, including appointments to meet can be made via e-mail to davidpunzalan@uvic.ca.

Laboratory content: You are always welcome to make an appointment with your teaching assistant (TA) to review lab material or post a question on the lab discussion forum

[\[https://bright.uvic.ca/d2l/le/content/501390/viewContent/3857323/View\]](https://bright.uvic.ca/d2l/le/content/501390/viewContent/3857323/View)

Inquiries about lab registration should be emailed to biologyreghelp@uvic.ca. For all other inquiries, email biologylabs@uvic.ca.

***Please start by checking the FAQs on page 7 of this document, and in the Welcome to the Lab module on Brightspace. Then read (and, if necessary, post on) the Brightspace (Lecture and Lab) Discussion forums.**

If you still have pressing questions that must be addressed by e-mail, be sure to include “BIOL 184” in the subject line of all e-mail correspondence*. We try to get back to you within 48h—we appreciate your patience.

Schedule of Major Assessments and Modes of Examination

The **Lecture Tests** will be administered online using Brightspace (BRS) and will be open-book and must be written individually, using a student's own mobile device or home computer. For Lecture Tests 1 through 3, students have the option of writing either on the originally scheduled date (during lecture time), or the deferred (on the following Saturday). Students do NOT need special permission or documentation (e.g., doctor's note) to write the deferred; access to the deferred is automated (so long as a student does not open/enter the original test). If students do not write any Lecture Tests (or corresponding deferred tests) during the dates provided, points for the respective missed test(s) will be added to the value of the Lecture Final Exam.

The **Lecture Final Exam** will be administered in-person using a paper test booklet and will be written individually. The exam will be closed-book and invigilated, though students are permitted to bring a single 8.5" x 11" study sheet as an aid during the exam, as well as a calculator. The **Lab** assessments will be administered either in-person during lab or through Brightspace under Course Tools > Assignments. The dates/times of each assessment, and their mode of examination, are summarized below.

Major Assessments	Date/Time	Mode
Lecture Test 1	October 1st, during scheduled lecture time OR October 3rd, at 9am (deferred)	Online, open book, individual
Lecture Test 2	November 5 th , during scheduled lecture time OR November 7 th , at 9am (deferred)	Online, open book, individual
Lecture Test 3	December 3 rd , during scheduled lecture time OR December 5 th , at 9am (deferred)	Online, open book, individual
Lecture Final Exam	During University Exam Period, TBD	Paper exam, closed book, individual
Cladogram 1	Due by end of Lab 1	In-person
OOLA 1	Due 11.59pm October 2nd	Online
Cladogram 2	Due by end of Lab 2	In-person
Excel Graph 1	Due 24 hours after end of Lab 2	In-person, submitted online
OOLA 2	Due 11.59pm October 16th	Online
Excel Graph 2	Due 24 hours after end of Lab 3	In-person, submitted online
Biological Drawing 1	Due by end of Lab 3	In-person
OOLA 3	Excel project, due 11.59pm October 30th	Online
Dichotomous Key 1	Due by end of Lab 4	In-person
Biological Drawing 2	Due by end of Lab 4	In-person
OOLA 4	Due 11.59pm Nov 27 th	Online
Dichotomous Key 2	Due by end of Lab 4	In-person,
Excel Graph 3	Due 24 hours after the end of Lab 4	
Lab Exam	November 30 th – December 4 th , during scheduled lab times	Paper exam, closed book, individual
<i>TBD = to be determined; OOLA = Out-of-Lab Assignment</i>		

Other Important Dates (check BRS for lab assignment due dates)

September 10th – Lectures begin

September 21st – In-Person Labs begin and will be held on alternating weeks

September 30th – Last day for adding courses – **you must be registered in a lab by this date** to remain in the course

September 30th – Observance of National Day of Truth and Reconciliation (university closed)

October 12th – Thanksgiving Day (university closed)

October 31st – Last day for withdrawing from courses

November 9th–11th – Reading Break

December 10th – Exam period begins

Tentative Schedule of Lecture Topics

NOTES: Numbers preceded by "M" in parentheses refers to the lecture module and readings refer to chapters/sections in OpenStax Biology 2e. For information regarding Labs, check the lab manual.

Week	Monday	Thursday	Readings
1	Sep 7 Labour day (no classes)	Sep 10 Descent with Modification (M1)	18.1
2	Sep 14 Replication, Growth, Fitness (M2)	Sep 17 Phenotypes, Variation, Selection (M3)	10.1 – 10.2
3	Sep 21 Inheritance, Mutation and Recombination (M4 & M5)	Sep 24 Phylogenetics I (M6)	11.1 – 11.2 20.1 – 20.3
4	Sep 28 Phylogenetics II & TOL (M7)	Oct 1 LECTURE TEST 1	21.1
5	Oct 5 Animals I (M8)	Oct 8 Animals II (M9)	27.1 – 27.4 28.1 – 28.2
6	Oct 12 Thanksgiving (no classes)	Oct 15 Animals III (M10)	28.4 – 28.7 29.1
7	Oct 19 Plants I (M11)	Oct 22 Plants II (M12)	25.1 - 25.4
8	Oct 26 Plants III (M13)	Oct 29 Fungi (M14)	26.1 – 26.4 24.1 – 24.3
9	Nov 2 Protists (M15)	Nov 5 LECTURE TEST 2	23.1 – 23.4
10	Nov 9 Reading Break (no classes)	Nov 12 Prokaryotes (M16)	22.1 – 22.3
11	Nov 16 Measuring Genetic Variability (M17)	Nov 19 Detecting and Inferring Evolution (M18 & M19)	12.1 – 12.3 19.1
12	Nov 23 Adaptive Evolution (M20)	Nov 26 Nonadaptive Evolution (M21)	19.2 – 19.3
13	Nov 30 Gene Flow & Speciation (M22)	Dec 3 LECTURE TEST 3	18.2 – 18.3
14	Dec 7 Day of Remembrance and Action on Violence Against Women (no classes)	Dec 10 Study Break begins	

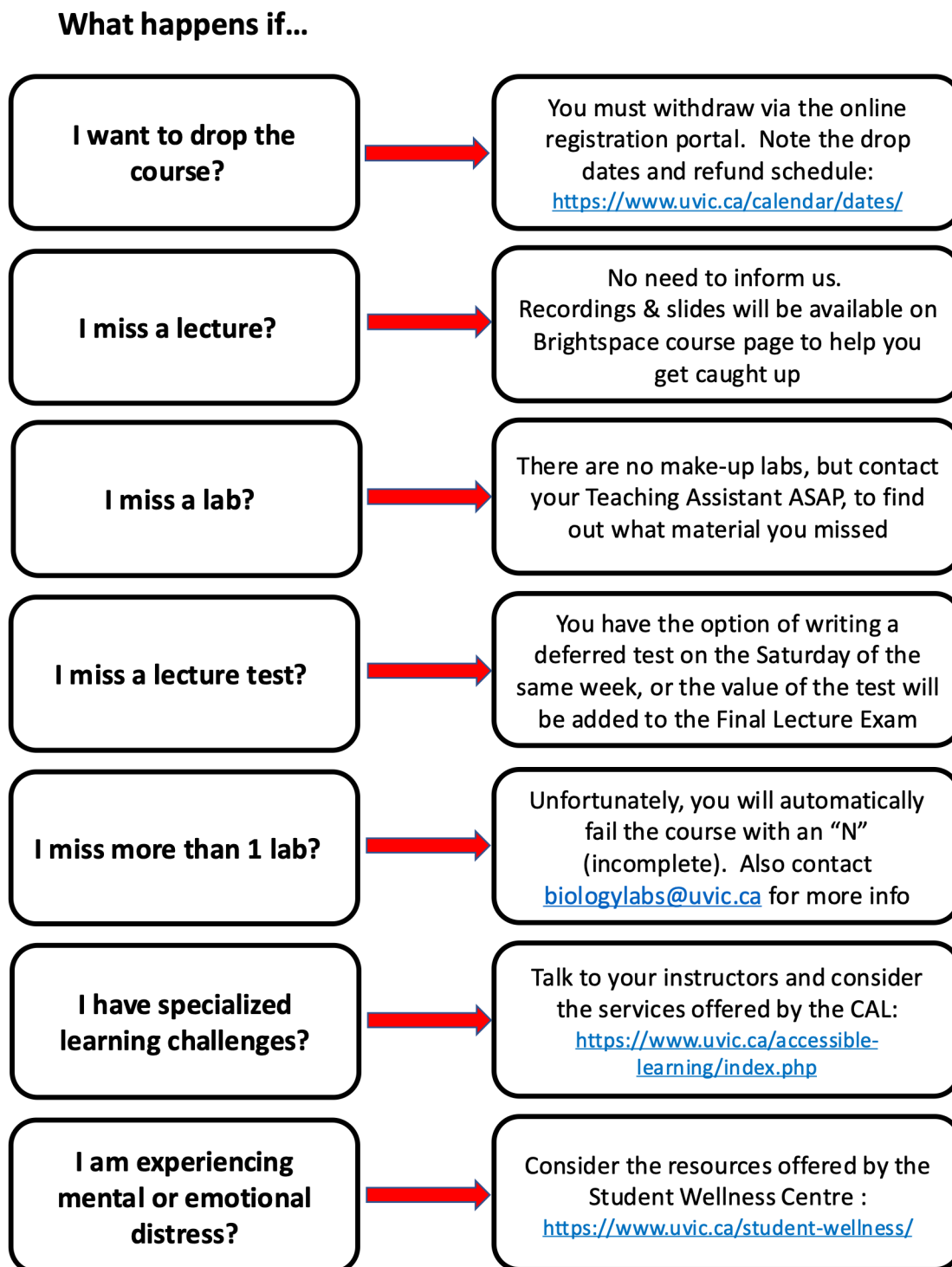
Schedule of Lab Topics

Dates	Lab	Lab Schedule
Sep. 21-24	1	Introduction to the Lab and Vertebrate Diversity
Oct 5-8	2	Invertebrate Diversity Lab
Oct 19-22	3	Introduction to Microscopy Lab
Nov 2-5	4	Plant Diversity Lab
Nov 9-11		Reading Break (Mon 9 th to Wed. 11 th)
Nov 16-19	5	Prokaryote and Protist Diversity Lab
Nov 30- Dec 4		Lab Exam (in-person)

**There are five in-person labs, which are held on alternating weeks.

Frequently Asked Questions

Detailed policies are outlined in this syllabus, as well as the lab manual—please read those carefully. For ease, a selection of questions and answers are depicted in the graphic, below.



University and Course Policies

Public Health Policies

All staff and students are expected to abide by the guidelines provided by the University of Victoria: <https://www.uvic.ca/ohse/occupational-health/communicable-disease/index.php>

Academic Integrity

The University of Victoria and the Department of Biology take academic integrity (including plagiarism) as a serious matter. Please read this:

https://www.uvic.ca/calendar/undergrad/index.php#/policy/Sk_0xsM_V

Missed examinations and assignments

You are NOT required to provide a medical note. If a Lecture Test is missed, you will have the option of writing a deferred Lecture Test (scheduled for 9am on the Saturday following the original test date). If neither the original or deferred test is written, points for a missed Lecture Test will be reallocated to (combined with) the Final Lecture Exam. If the Final Lecture Exam and/or Lab Exam are missed, arrangements must be made to: 1) Write a deferred exam before the end of the exam period, or 2) Request an Academic Concession to write the exam at a later date (<https://www.uvic.ca/students/academics/academic-concessions-accommodations/request-for-academic-concession/index.php>). For missed laboratory assignments, refer to the Laboratory Manual and contact your TA/Senior Laboratory Instructor as soon as possible.

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%

A grade less than 50% is a failing grade and results in an “F” on your transcript. Failure to complete lab requirements, including missing more than 2 labs will result in an incomplete grade and an “N” on your transcript
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