

COURSE SYLLABUS



COURSE TITLE: BIOL-124: Evolution and Diversity

CLASS SECTION: 001AB/002AB

TERM: FALL 2022

COURSE CREDITS: 4

DELIVERY METHOD(S): F2F

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

Learn more about Camosun's [Territorial Acknowledgement](#).

For COVID-19 information please visit <https://camosun.ca/about/covid-19-updates> (*note - legacy page link works too: <https://legacy.camosun.ca/covid19/index.html>*.)

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME: DAVID RAJU

EMAIL: raju@camosun.bc.ca

OFFICE: F342A

HOURS: Th online from 12:00-4:00 PM (also available outside these hours but response time will vary)

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

CALENDAR DESCRIPTION

This course consists of studies in the general areas of evolution and organism diversity. Topics include natural selection, the genetic basis of evolution, speciation and evolutionary change and the adaptive radiation of organisms.

PREREQUISITE(S):

One of:

- C in English 12
- C in Camosun Alternative

And one of:

- C+ in Biology 12
- C+ Camosun Alternative

CO-REQUISITE(S):

Not Applicable

EXCLUSION(S):

Not Applicable

COURSE LEARNING OUTCOMES / OBJECTIVES

Upon completion of this course a student will be able to:

1. Identify and classify living organisms to their major taxonomic groupings, and list their defining characteristics.
2. Describe the major lines of evidence for evolution.
3. Explain major topics in evolutionary theory.
4. Discuss the nature of scientific knowledge in biology, its limits and strengths, and how it is documented.

REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

All materials will be provided, including an electronic Biology textbook.

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION / ACTIVITY / EVALUATION

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

SCHEDULE FOR STUDENTS IN 001 Wednesday Lab Section:

Monday Lecture from 10:00-11:20 AM in Fisher 266

Thursday Lecture from 10:00-11:20 AM in Fisher 266

Wednesday Lab 001B from 9:30-12:20 PM or Lab 001A from 2:30-5:20 PM in Fisher 244

Week, Day, Date, Lecture or Lab,	Lab #, Lecture #, or Exam #, Topical Heading	Due Day and Due Date
W1, M, Sept 5, Lec	NO CLASS	
W1, W, Sept 7, Lab	Lec#1 Outline/ Lab#1 Systematics	Same day
W1, Th, Sept 8, Lec	Lec #2 Conservation	Sun, Sept 11 before 5PM
W2, M, Sept 12, Lec	Lec #3 Insect Anatomy	Sun, Sept 18 before 5PM
W2, W, Sept 14, Lab	Lab #2 Insect Taxonomy	Same day
W2, Th, Sept 15, Lec	Lec #4 Invertebrate Taxonomy	Sun, Sept 18 before 5PM
W3, M, Sept 19, Lec	Lec #5 Plant Review	Sun, Sept 25 before 5PM
W3, W, Sept 21, Lab	Lab #3 Plant Taxonomy	Hand in Lab#3 and Lec#6 as one
W3, Th, Sept 22, Lec	Lec #6 Plant Taxonomy continued	Sun, Sept 25 before 5PM
W4, M, Sept 26, Lec	Lec #7 Bird/Mammal Anatomy	Sun, Oct 2 before 5PM
W4, W, Sept 28, Lab	Lab #4 Owl Pellet Study	Same day
W4, Th, Sept 29, Lec	Lec #8 Amphibian/Reptile Anatomy	Sun, Oct 2 before 5PM
W5, M, Oct 3, Lec	Lec #9 Fungi Review	Sun, Oct 9 before 5PM
W5, W, Oct 5, Lab	Lab #5 Fungi Taxonomy	Hand in Lab#5 and Lec#10 as one
W5, Th, Oct 6, Lec	Lec #10 Fungi Taxonomy continued	Sun, Oct 9 before 5PM
W6, M, Oct 10, Lec	NO CLASS	
W6, W, Oct 12, Lab	Lab #6 Planaria Study	Same day
W6, Th, Oct 13, Lec	Lec #11 Scientific Inquiry	Sun, Oct 16 before 5PM
W7, M, Oct 17, Lec	Lec#12 Experiment Research	Hand in Lec#12 and Lab#7 as one
W7, W, Oct 19, Lab	Lab #7 Experiment Research cont	Sun, Oct 23 before 5PM
W7, Th, Oct 20, Lec	Lec #13 Prokaryotes Review	Sun, Oct 23 before 5PM
W8, M, Oct 24, Lec	Lec #13 Prokaryotes continued	Sun, Oct 30 before 5PM
W8, W, Oct 26, Lab	Lab #8 Daphnia Study	Same day
W8, Th, Oct 27, Lec	Lec #14 Biomagnification	Sun, Oct 30 before 5PM
W9, M, Oct 31, Lec	Lec #15 Fish Dissection	Sun, Nov 6 before 5PM
W9, W, Nov 2, Lab	Lab #9 Microorganism Diversity	Same day
W9, Th, Nov 3, Lec	Lec #16 Protozoan Review	Sun, Nov 6 before 5PM
W10, M, Nov 7, Lec	Lec #17 Protozoan Taxonomy	Sun, Nov 13 before 5PM
W10, W, Nov 9, Lab	Lab #10 Sowbug Evolution	Same day
W10, Th, Nov 10, Lec	Lec #18 Natural Selection	Sun, Nov 13 before 5PM
W11, M, Nov 14, Lec	Lec #19 Clam Dissection	Sun, Nov 20 before 5PM
W11, W, Nov 16, Lab	Lab #11 Invertebrate Diversity	Same day
W11, Th, Nov 17, Lec	Lec #20 Invertebrate Review	Sun, Nov 20 before 5PM
W12, M, Nov 21, Lec	Lec #21 Sexual Selection	Sun, Nov 27 before 5PM
W12, W, Nov 23, Lab	Lab #12 Guppy Plasticity	Same day
W12, Th, Nov 24, Lec	Lec #22 Chordate Taxonomy	Sun, Nov 27 before 5PM
W13, M, Nov 28, Lec	Lec #23 Chordate Review	Sun, Dec 4 before 5PM
W13, W, Nov 30, Lab	Lab #13 Chordate Diversity	Same day
W13, Th, Dec 1, Lec	Lec #24 Threats to Biodiversity	Sun, Dec 4 before 5PM
W14, M, Dec 5, Lec	EXAM REVIEW	EXAM REVIEW
W14, W, Dec 7, Lab	Lab #14 Indicator Species	Same day
W14, Th, Dec 8, Lec	EXAM REVIEW	EXAM REVIEW
FINAL EXAM	TBA	TBA

SCHEDULE FOR STUDENTS IN 002 Tuesday Lab Section:

Monday Lecture from 4:00-5:20 PM in Fisher 266

Thursday Lecture from 4:00-5:20 PM in Fisher 268

Tuesday Lab 002B from 2:30-5:20 PM or Lab 002A from 6:30-9:20PM in Fisher 244

Week, Day, Date, Lecture or Lab,	Lab #, Lecture #, or Exam #, Topical Heading	Due Day and Due Date
W1, M, Sept 5, Lec	NO CLASS	
W1, T, Sept 6, Lab	Lec#1 Outline & Lab #1 Systematics	Same day
W1, Th, Sept 8, Lec	Lec #2 Conservation	Sun, Sept 11 before 5PM
W2, M, Sept 12, Lec	Lec #3 Insect Anatomy	Sun, Sept 18 before 5PM
W2, T, Sept 13, Lab	Lab #2 Insect Taxonomy	Same day
W2, Th, Sept 15, Lec	Lec #4 Invertebrate Taxonomy	Sun, Sept 18 before 5PM
W3, M, Sept 19, Lec	Lec #5 Plant Review	Sun, Sept 25 before 5PM
W3, T, Sept 20, Lab	Lab #3 Plant Taxonomy	Hand in Lab#3 and Lec#6 as one
W3, Th, Sept 22, Lec	Lec #6 Plant Taxonomy continued	Sun, Sept 25 before 5PM
W4, M, Sept 26, Lec	Lec #7 Bird/Mammal Anatomy	Sun, Oct 2 before 5PM
W4, T, Sept 27, Lab	Lab #4 Owl Pellet Study	Same day
W4, Th, Sept 29, Lec	Lec #8 Amphibian/Reptile Anatomy	Sun, Oct 2 before 5PM
W5, M, Oct 3, Lec	Lec #9 Fungi Review	Sun, Oct 9 before 5PM
W5, T, Oct 4, Lab	Lab #5 Fungi Taxonomy	Hand in Lab#5 and Lec#10 as one
W5, Th, Oct 6, Lec	Lec #10 Fungi Taxonomy continued	Sun, Oct 9 before 5PM
W6, M, Oct 10, Lec	NO CLASS	
W6, T, Oct 11, Lab	Lab #6 Planaria Study	Same day
W6, Th, Oct 13, Lec	Lec #11 Scientific Inquiry	Sun, Oct 16 before 5PM
W7, M, Oct 17, Lec	Lec #12 Experimental Research	Hand in Lec#12 and Lab#7 as one
W7, T, Oct 18, Lab	Lab #7 Experimental Research cont.	Sun, Oct 23 before 5PM
W7, Th, Oct 20, Lec	Lec #13 Prokaryotes Review	Sun, Oct 23 before 5PM
W8, M, Oct 24, Lec	Lec #13 Prokaryotes continued	Sun, Oct 30 before 5PM
W8, T, Oct 25, Lab	Lab #8 Daphnia Study	Same day
W8, Th, Oct 27, Lec	Lec #14 Biomagnification	Sun, Oct 30 before 5PM
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W10, T, Nov 8, Lab	Lab #10 Sowbug Evolution	Same day
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W12, M, Nov 21, Lec	Lec #21 Sexual Selection	Sun, Nov 27 before 5PM
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W13, T, Nov 29, Lab	Lab #13 Chordate Diversity	Same day
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W14, M, Dec 5, Lec	EXAM REVIEW	EXAM REVIEW
W14, T, Dec 6, Lab	Lab #14 Indicator Species	Same day
W14, Th, Dec 8, Lec	EXAM REVIEW	EXAM REVIEW
FINAL EXAM	TBA	TBA

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced notice is required. Deadlines can be reviewed on the [CAL exams page](http://camosun.ca/services/accessible-learning/exams.html). <http://camosun.ca/services/accessible-learning/exams.html>

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
11 LAB WRITE-UPS (11X3 marks)	33%
21 Lecture Assignments (21X2 marks)	42%
3 LAB/LECTURE PROJECTS (3X5 marks)	15%
Final Exam (1X10 marks)	10%
TOTAL	100%

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the [Grade Review and Appeals](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information. <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

COURSE GUIDELINES & EXPECTATIONS

On the first day of class you will email the instructor raju@camosun.bc.ca the following information before the end of the day and it will count as your first lecture assignment:

- 1) Subject line of email: "Your Full Name" followed by the words "Lec #1 Assignment"**
- 2) In the body of the email:**
 - a) Once again your full name**
 - b) Your student number**
 - c) Your section (001A, 001B, 002A, or 002B)**
 - d) What day and time is your lab? What room is it in?**
 - e) What days and times are your two lectures? What room(s) are they in?**
 - f) The email address you are using to send this email and wish to use for the course (make sure this email address matches the email listed for you on D2L (Your grades on D2L will be regularly updated for your viewing as you progress through the course))**
 - g) Any Questions you may have about the Course outline thus far that wasn't answered on the first day of classes, would like repeated, or feel more comfortable asking by email.**

This course has been carefully designed so that the only stress there is will be the stress you create for yourself. I am well aware that proper learning can't take place if stress is present and so I will do my part to provide a proper learning environment but this can't be accomplished without you doing your part. And so complete assignments ahead of time so that you have time to ask questions before the due date, show up to lab early, follow all directions carefully, and most of all have fun. The course is not based on memorization and regurgitation teaching methods but rather is based on learning through student centered processes such as active learning and discovery to achieve the learning outcomes of the course. The learning is in the search. In other words those that do the doing do the learning. For meaningful and long lasting learning it is my belief that you can not be a passive participant in the process but rather must be the investigator in an investigation and the investigation you have been assigned is Biology 124. I hope you enjoy the course and make the most of it. After all, you get out of life what you put into it. ☺

SCHOOL OR DEPARTMENTAL INFORMATION

STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies; demonstrating courtesy and respect toward others; and respecting expectations concerning attendance, assignments, deadlines, and appointments.

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

If you have a mental health concern, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started:

<http://camosun.ca/services/accessible-learning/>

Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Mandatory Attendance for First Class Meeting of Each Course

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable reason in advance, you will be removed from the course and the space offered to the next waitlisted student. For more information, please see the "Attendance" section under "Registration Policies and Procedures"

(<http://camosun.ca/learn/calendar/current/procedures.html>) and the Grading Policy at <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>.

Medical / Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

Changes to this syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.