

# COURSE SYLLABUS



COURSE TITLE: BIOL-124: Evolution and Diversity

CLASS SECTION: 001AB/002AB

TERM: WINTER 2023

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](#).

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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

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NAME: DAVID RAJU

EMAIL: [raju@camosun.bc.ca](mailto:raju@camosun.bc.ca)

OFFICE: F342A

HOURS: W online from 12:00-4:00 PM

*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

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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

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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

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

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

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

## SCHEDULE FOR STUDENTS IN Biology 124-001:

Monday Lecture from 10:30-11:50 AM in Fisher 268

Wednesday Lecture from 10:30-11:50 AM in Fisher 268

Lab 001A Friday from 9:30-12:20 PM or Lab 001B Thursday from 1:30-4:20 PM in Fisher 244

Week, Day, Date, Lecture or Lab,	Lab #, Lecture #, or Exam #, Topical Heading	Due Day and Due Date
W1, M, Jan 9, Lec	Lec#1 Course Outline & Intro	Same day
W1, W, Jan 11, Lec	Lec#2 Insect Dissection	Fri, Jan 13 before 5PM
W1, Th/F, Jan 12/13, Lab	Lab#1 Insect Taxonomy	Same day
W2, M, Jan 16, Lec	Lec#3 Systematics	Fri, Jan 20 before 5PM
W2, W, Jan 18, Lec	Lec#4 Scientific Inquiry	Fri, Jan 20 before 5PM
W2, Th/F, Jan 19/20, Lab	Lab#2 <i>Planaria</i> Study	Same day
W3, M, Jan 23, Lec	Lec#5 Invertebrate Review	Fri, Jan 27 before 5PM
W3, W, Jan 25, Lec	Lec#6 Invertebrate Diversity	Fri, Jan 27 before 5PM
W3, Th/F, Jan 26/27, Lab	Lab#3 Invertebrate Taxonomy	Same day
W4, M, Jan 30, Lec	Lec#7 Clam Dissection	Fri, Feb 3 before 5PM
W4, W, Feb 1, Lec	Lec#8 Experimental Research	Fri, Feb 3 before 5PM
W4, Th/F, Feb 2/3, Lab	Lab#4 <i>Daphnia</i> Study	Same day
W5, M, Feb 6, Lec	Lec#9 Biomagnification	Fri, Feb 10 before 5PM
W5, W, Feb 8, Lec	Lec#10 Fish Dissection	Fri, Feb 10 before 5PM
W5, Th/F, Feb 9/10, Lab	Lab#5 Chordate Taxonomy	Same day
W6, M, Feb 13, Lec	Lec#11 Mammal/Bird Anatomy	Fri, Feb 17 before 5PM
W6, W, Feb 15, Lec	Lec#12 Reptile/Amphibian Anatomy	Fri, Feb 17 before 5PM
W6, Th/F, Feb 16/17, Lab	Lab#6 Owl Pellet Study	Same day
W7, M, Feb 20, Lec	<b>NO LECTURE</b>	
W7, W, Feb 22, Lec	<b>NO LECTURE</b>	
W7, Th/F, Feb 23/24, Lab	<b>NO LAB</b>	
W8, M, Feb 27, Lec	Lec#13 Fungi Review	Fri, Mar 3 before 5PM
W8, W, Mar 1, Lec	Lec#14 Fungi Diversity	Fri, Mar 3 before 5PM
W8, Th/F, Mar 2/3, Lab	Lab#7 Fungi Morphology	Same day
W9, M, Mar 6, Lec	Lec#15 Sexual Selection	Fri, Mar 10 before 5PM
W9, W, Mar 8, Lec	Lec#16 Chordate Diversity	Fri, Mar 10 before 5PM
W9, Th/F, Mar 9/10, Lab	Lab#8 Wild Oat Study	Same day
W10, M, Mar 13, Lec	Lec#17 Protozoan Review	Fri, Mar 17 before 5PM
W10, W, Mar 15, Lec	Lec#18 Protozoan Diversity	Fri, Mar 17 before 5PM
W10, Th/F, Mar 16/17, Lab	Lab#9 Microorganism Taxonomy	Same day
W11, M, Mar 20, Lec	Lec#19 Prokaryote Review	Fri, Mar 24 before 5PM
W11, W, Mar 22, Lec	Lec#20 Natural Selection	Fri, Mar 24 before 5PM
W11, Th/F, Mar 23/24, Lab	Lab#10 Sowbug Evolution	Same day
W12, M, Mar 27, Lec	Lec#21 Plant Review	Fri, Mar 31 before 5PM
W12, W, Mar 29, Lec	Lec#22 Threats to Biodiversity	Fri, Mar 31 before 5PM
W12, Th/F, Mar 30/31, Lab	Lab#11 Native Plants	Same day
W13, M, Apr 3, Lec	Lec#23 Chordate Review	Fri, Apr 7 before 5PM
W13, W, Apr 5, Lec	Lec#24 Conservation	Fri, Apr 7 before 5PM
W13, Th/F, Apr 6/7, Lab	<b>NO LAB</b>	
W14, M, Apr 10, Lec	<b>NO LECTURE</b>	
W14, W, Apr 12, Lec	EXAM REVIEW	
W14, Th/F, Apr 13/14, Lab	Lab#12 Plasticity & Evolution	Same day
W15 EXAM	TBA	TBA

## SCHEDULE FOR STUDENTS IN Biology 124-002:

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

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

Lab 002A Friday from 1:30-4:20 PM or Lab 002B Thursday 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, Jan 9, Lec	Lec#1 Course Outline & Intro	Same day
W1, W, Jan 11, Lec	Lec#2 Insect Dissection	Fri, Jan 13 before 5PM
W1, Th/F, Jan 12/13, Lab	Lab#1 Insect Taxonomy	Same day
W2, M, Jan 16, Lec	Lec#3 Systematics	Fri, Jan 20 before 5PM
W2, W, Jan 18, Lec	Lec#4 Scientific Inquiry	Fri, Jan 20 before 5PM
W2, Th/F, Jan 19/20, Lab	Lab#2 <i>Planaria</i> Study	Same day
W3, M, Jan 23, Lec	Lec#5 Invertebrate Review	Fri, Jan 27 before 5PM
W3, W, Jan 25, Lec	Lec#6 Invertebrate Diversity	Fri, Jan 27 before 5PM
W3, Th/F, Jan 26/27, Lab	Lab#3 Invertebrate Taxonomy	Same day
W4, M, Jan 30, Lec	Lec#7 Clam Dissection	Fri, Feb 3 before 5PM
W4, W, Feb 1, Lec	Lec#8 Experimental Research	Fri, Feb 3 before 5PM
W4, Th/F, Feb 2/3, Lab	Lab#4 <i>Daphnia</i> Study	Same day
W5, M, Feb 6, Lec	Lec#9 Biomagnification	Fri, Feb 10 before 5PM
W5, W, Feb 8, Lec	Lec#10 Fish Dissection	Fri, Feb 10 before 5PM
W5, Th/F, Feb 9/10, Lab	Lab#5 Chordate Taxonomy	Same day
W6, M, Feb 13, Lec	Lec#11 Mammal/Bird Anatomy	Fri, Feb 17 before 5PM
W6, W, Feb 15, Lec	Lec#12 Reptile/Amphibian Anatomy	Fri, Feb 17 before 5PM
W6, Th/F, Feb 16/17, Lab	Lab#6 Owl Pellet Study	Same day
W7, M, Feb 20, Lec	<b>NO LECTURE</b>	
W7, W, Feb 22, Lec	<b>NO LECTURE</b>	
W7, Th/F, Feb 23/24, Lab	<b>NO LAB</b>	
W8, M, Feb 27, Lec	Lec#13 Fungi Review	Fri, Mar 3 before 5PM
W8, W, Mar 1, Lec	Lec#14 Fungi Diversity	Fri, Mar 3 before 5PM
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W9, M, Mar 6, Lec	Lec#15 Sexual Selection	Fri, Mar 10 before 5PM
W9, W, Mar 8, Lec	Lec#16 Chordate Diversity	Fri, Mar 10 before 5PM
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W10, M, Mar 13, Lec	Lec#17 Protozoan Review	Fri, Mar 17 before 5PM
W10, W, Mar 15, Lec	Lec#18 Protozoan Diversity	Fri, Mar 17 before 5PM
W10, Th/F, Mar 16/17, Lab	Lab#9 Microorganism Taxonomy	Same day
W11, M, Mar 20, Lec	Lec#19 Prokaryote Review	Fri, Mar 24 before 5PM
W11, W, Mar 22, Lec	Lec#20 Natural Selection	Fri, Mar 24 before 5PM
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W12, W, Mar 29, Lec	Lec#22 Threats to Biodiversity	Fri, Mar 31 before 5PM
W12, Th/F, Mar 30/31, Lab	Lab#11 Native Plants	Same day
W13, M, Apr 3, Lec	Lec#23 Chordate Review	Fri, Apr 7 before 5PM
W13, W, Apr 5, Lec	Lec#24 Conservation	Fri, Apr 7 before 5PM
W13, Th/F, Apr 6/7, Lab	<b>NO LAB</b>	
W14, M, Apr 10, Lec	<b>NO LECTURE</b>	
W14, W, Apr 12, Lec	EXAM REVIEW	
W14, Th/F, Apr 13/14, Lab	Lab#12 Plasticity & Evolution	Same day
W15 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

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DESCRIPTION	WEIGHTING
12 LABS (12X4)	48%
24 Lecture Assignments (24X2)	48%
Exam (1X4)	4%
<b>TOTAL</b>	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

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**On the first day of class you will email the instructor [raju@camosun.bc.ca](mailto: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

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### STUDENT RESPONSIBILITY

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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

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

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

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### 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](http://camosun.ca/sexual-violence). To contact the Office of Student Support: [oss@camosun.ca](mailto: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.