

# COURSE SYLLABUS



COURSE TITLE: BIOL-228: Ecology

CLASS SECTION: 001A, 001B

TERM: Fall 2022

COURSE CREDITS: 4

DELIVERY METHOD(S): In Person

Camosun College campuses are located on the traditional territories of the Ləkʷəŋən 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://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: Laura Biggs

EMAIL: [BiggsL@camosun.ca](mailto:BiggsL@camosun.ca)

OFFICE: Fisher 352

HOURS: Wednesdays 1:00-2:00pm, Thursdays 8:30-10:30am, Fridays 2:30-3:30pm, or by appointment\*

\*Other meeting times can be arranged on campus or online if these times don't fit with your schedule.

*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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An introduction to the factors controlling the distribution and abundance of organisms. Topics include: physiological ecology, population dynamics, competition, predation, herbivory, mutualism, conservation biology, community structure and function, succession, nutrient cycles and biogeoclimatic zones.

### PREREQUISITE(S):

All of:

- C in BIOL 124

### 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. Define Ecology and employ the scientific method by applying appropriate sampling techniques and data analyses to appraise suitable ecological questions.
2. Differentiate between autecology, population, community and ecosystem. Explain and criticize key concepts and models appropriate to these levels of inquiry.
3. Integrate and synthesize ecological concepts predicting organism abundance and distribution, recommending strategies for management and conservation and evaluating the long-term stability of ecological systems.

## REQUIRED MATERIALS & RECOMMENDED PREPARATION / INFORMATION

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(a) **Recommended Textbook:**

Bowman, W.D., & Hacker S.D. (2021). *Ecology*, 5<sup>th</sup> Ed. New York, USA: Oxford University Press.\*

\*Note: Other general ecology textbooks may also be suitable for this course. Please speak with the instructor if you are unsure of what to purchase.

(b) **Lab Resources:**

i) Lab procedures and related assignments will be posted on D2L prior to each scheduled lab. Please read each lab procedure in advance and bring a print or electronic copy to each lab period.

ii) Please bring a scientific calculator to each lab period.

iii) Microsoft Word and Excel are required for completing lab assignments. A FREE version of Microsoft 365 is available for all students, go to: <https://camosun.ca/services/its/software-other-services>.

iv) Access to a computer is necessary for completing lab assignments. The library at Camosun offers hourly or semester-long laptop loans: <https://camosun.ca/services/library/borrow>. It is recommended to bring a laptop to each lab period, but this is not required.

v) There will be two SimBio online labs in this course (see lab schedule on next page). Each lab costs \$6 USD for a total of \$12 USD per student for the semester. You will need to pay this fee by credit card on the SimBio website. Please wait for further details from your instructor about how to access and pay for these online labs.

(c) **Lecture Resources:**

Lectures are based on PowerPoint slides and will be delivered in person. The slides will be posted on the course D2L website, along with additional resources for review and activities to complete. Slides may be downloaded or printed to help follow the lectures.

## 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.

**Lectures:** 001AB Tuesdays 8:30am-9:50am F266  
001AB Fridays 1:00pm-2:20pm F100

**Labs:** 001B Mondays 9:30am-12:20pm F244  
001A Mondays 1:30pm-4:20pm F244

WEEK #	DATES	LECTURE TOPICS	LAB TOPICS
1	Sept. 6-9	Course Introduction Module 1. The Web of Life (Ch.1)	<b>NO LAB – LABOUR DAY</b>
2	Sept. 12-16	Module 2. Organisms and Their Environment (Ch.2 & 3) Module 3. Evolution and Ecology (Ch.6)	Statistical Analyses Lab Set up Population Growth Lab
3	Sept. 19-23	Module 4. Life History (Ch.7) Module 5. Behavioural Ecology (Ch.8)	SimBio Lab – Experimental Design and Lemna Count
4	Sept. 26-30	Module 6. Population Distribution and Abundance (Ch.9) <b>NO CLASS SEPTEMBER 30</b>	Community Sampling Lab and Lemna Count
5	Oct. 3-7	<b>LECTURE MIDTERM #1 (Tues Oct 4)</b> Module 6. cont'd	Set up Germination Lab and Lemna Count
6	Oct. 10-14	Module 7. Population Dynamics (Ch.10) Module 8. Population Growth and Regulation (Ch.11)	<b>NO LAB – THANKSGIVING</b> Lab Project Draft Due (Lemna Count in class on Oct 11)
7	Oct. 17-21	Module 8. cont'd Module 9. Predation (Ch.12)	<b>LAB QUIZ #1</b> and Lemna Count
8	Oct. 24-28	Module 9. cont'd Module 10. Parasitism (Ch.13)	Finish Germination Lab and Lemna Count
9	Oct. 31-Nov. 4	Module 10. cont'd Module 11. Competition (Ch.14)	Mark-Recapture Lab and Lemna Count
10	Nov. 7-11	<b>LECTURE MIDTERM #2 (Tues Nov 8)</b> <b>NO CLASS NOVEMBER 11</b>	Niche Lab and Lemna Count
11	Nov. 14-18	Module 12. Mutualism and Commensalism (Ch.15)	Finish Population Growth Lab Lab Project Draft Check-in
12	Nov. 21-25	Module 13. The Nature of Communities and Change in Communities (Ch.16 & 17)	SimBio Lab – Nutrient Pollution
13	Nov. 28-Dec. 2	Module 14. Energy Flow&Food Webs(Ch.21)	Lab Project Due Lab Project Presentations
14	Dec. 5-9	Module 15. Conservation Biology (Ch.23) Module 16. Ecosystem Management (Ch.24)	<b>LAB QUIZ #2</b>
	Dec. 12 - 20	<b>FINAL EXAM</b> (Date and time scheduled by College Registrar)	

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 noticed 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
Lecture Assignments on D2L (x 16)	16%
Lab Assignments (x 8)	16%
Lab Project	8%
Online Participation	4%
Lecture Midterm Exam #1 – Tuesday October 4	10%
Lecture Midterm Exam #2 – Tuesday November 8	10%
Lab Quiz #1 – Monday October 17	8%
Lab Quiz #2 – Monday December 5	8%
Lecture Final Exam (Date TBD)	20%
	<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>

### **Notes about evaluation methods:**

- Lecture Assignments on D2L are open-book and use of the PowerPoint slides is encouraged. Assignments are due on the day prior to each lecture exam at 11:59pm (**no late submissions accepted**). The assignments set up as D2L “quizzes” allow for **2 attempts**, with your highest grade of the two being kept. A missed submission will result in a grade of zero for that assignment.
- Lab Assignments will be posted online prior to each lab period and will be due the following Sunday at 11:59pm, unless otherwise specified by the instructor. Lab Assignments are completed in groups, with one copy submitted per group. These assignments must be uploaded to D2L in the appropriate dropbox. Late assignments will be graded but marks equivalent to **10%** of the total value of the assignment will be deducted for each day past the deadline, including weekends. Late assignments will not be accepted once marked assignments have been returned to the class.
- The requirements and timeline for the Lab Project will be explained during the first lab period. This project must be typed and submitted to D2L in the appropriate dropbox, with the same late penalty as the Lab Assignments (**10%** per day, as described above). The Lab Project will also be presented during the lab.
- Online Participation consists of a small number of short online activities throughout the course (e.g. posting in a discussion forum, performing additional research). These activities will have generous deadlines but there are **no late submissions accepted**.
- Lecture Midterms take place during regular lecture hours and are NOT cumulative, whereas the Final Exam takes place during the final exam period (as scheduled by the College Registrar) and IS cumulative. These

exams are strictly based on lecture content and are all closed-book exams. The use of phones, smart watches, or other electronic devices during exams is NOT permitted and will result in a grade of zero.

- Lab Quizzes take place during regular lab hours. These quizzes are strictly based on lab content and are closed-book. The use of phones, smart watches, or other electronic devices during quizzes is NOT permitted and will result in a grade of zero. Please bring a **calculator** to Lab Quizzes.

## COURSE GUIDELINES & EXPECTATIONS

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### Lecture Attendance

Aside from the first two weeks of classes, attendance will not be required for lectures (EXAMS are the only exception to this). However, attending and participating in lectures will be an important part of succeeding in this course, as there will be additional explanations and examples to support learning. If a lecture is missed, the student is responsible for obtaining information such as notes, handouts, assignments, and announcements.

### Laboratory Attendance

The laboratory experience is crucial to meeting the course learning objectives; therefore, attendance for each lab session in its entirety is **mandatory** and will be noted. Lateness in arriving, failure to attend the lab, or leaving the lab early will result in forfeiting credit for that lab, including any related assignments. Arriving more than **5 minutes** after the start time of the lab is considered late and will only be acceptable ONE time or with a legitimate excuse.

If a lab session is missed, another student's data **may not** be used to complete a lab assignment for credit. Exceptions may be made **at the instructor's discretion** in legitimate cases of emergency (e.g. severe illness); in such cases the instructor must receive **advance notification** to grant approval for any accommodation.

### Assignments

There will be many lecture and lab assignments throughout the course. It is the student's responsibility to be informed of any work expected and the dates the work is due. Some course assignments will be group work, while others will be individual work. When submitting your own individual assignment, be sure that it is your own work (keeping in mind student conduct requirements). This applies even if you are working with a study group – I do encourage you to study and work with other students, but the work you submit must still be your own. For group assignments, each person in a group will receive the same mark on any group work. The only exception to this is when a group member fails to contribute, resulting in a grade of zero for that individual on that particular assignment.

Please submit assignments in the format requested by the instructor. Incorrect formatting will result in late penalties and delayed grading.

All assignments are due at the date and time specified by the instructor. As described on the previous page, late Lab Assignments will be accepted with a penalty of **10% per day**, including weekends. Late assignments will not be accepted once marked assignments have been returned to the class. Lecture Assignments and Online Participation activities are no lates accepted.

### Plagiarism

You are encouraged to discuss assignments with your classmates, however, **individual assignments must be your own individual work – beware of plagiarism.**

Plagiarizing is appropriating the work or parts or passages of another's writing (including the ideas or language) and passing them off as the product of one's own mind or manual skill (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.1.pdf>).

Except where work is assigned to a group, all written work must be done individually. Plagiarism is a serious offence and is considered to be academic misconduct, and **will not be tolerated**. A student caught plagiarizing will forfeit all credit for the assignment and a note will be sent to the Dean regarding the student's behaviour.

### Missed Exams

All exams must be written at the scheduled times. However, it is understood that emergency circumstances occur (e.g. severe illness or emergency in the immediate family); for such circumstances accommodation may be offered at the discretion of the instructor, provided the student:

- (a) notifies the instructor **in advance** of the exam (not after), and
- (b) provides **acceptable documentation** of the circumstance where possible (i.e. medical documentation).

In the event of emergency circumstances, it is at the instructor's discretion whether to administer a make-up exam or adjust exam grade weighting accordingly.

### **\* HOLIDAYS, SCHEDULED FLIGHTS, EVENTS, AND WORK ARE NOT CONSIDERED TO BE EMERGENCIES \***

Be sure not to make travel or work plans for the end of semester until the final exam schedule is finalized and posted.

### Cheating

A student caught cheating on an exam will forfeit all credit for that exam and perhaps for the course. Cheating is a serious offence and is considered to be academic misconduct. Cheating includes but is not limited to:

- (a) using unauthorized materials or resources in a quiz/exam, and
- (b) providing information to another person regarding exam content.

The consequences for cheating and plagiarism are outlined by Camosun College policies (see <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf>) and penalties may be severe.

### Student Safety

The following laboratory safety practices are required to participate in all laboratory activities. Students must follow all safety rules and procedures when in the lab space.

Lab footwear	<ul style="list-style-type: none"><li>• For safety reasons <b>WorkSafeBC</b> mandates that students are <b>required</b> to wear closed shoes in all lab times. Flip flops, sandals, or shoes with holes are NOT acceptable.</li></ul>
Lab coat	<ul style="list-style-type: none"><li>• Due to the handling of chemicals in this lab, lab coats are <b>required</b> to participate in each lab for this course.</li></ul>
Eating & drinking	<ul style="list-style-type: none"><li>• Absolutely <b>NOTHING</b> may be ingested while in the lab. Chewing gum and applying makeup or lip balm are similarly prohibited.</li><li>• If something must be consumed, then it may be taken out of the lab.</li></ul>
Hair	<ul style="list-style-type: none"><li>• Long hair must be tied back securely.</li></ul>
Hand washing	<ul style="list-style-type: none"><li>• Hands should be thoroughly washed <b>BEFORE</b> leaving the lab.</li></ul>

## 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.

### 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.