BIOL 418 FOREST ECOLOGY
Fall 2025
Tues, Wed, Fri: 10:30 am – 11:20 pm
Cunningham Building (CUNN) Rm. 146

INSTRUCTOR: Dr. Barbara Hawkins
Office: CUNN 151a
Phone: 250-721-7117 Email: bhawkins@uvic.ca
Office hours by arrangement – please email me to arrange. I'd love to chat!

TEACHING ASSISTANTS: David Furlonger davidfurlonger@uvic.ca (Tues)
Latina Penkova latinapenkova@uvic.ca (Wed)
Labs: Tuesday & Wednesday, 2:30-5:30 pm

COURSE OBJECTIVES: To explore the structure and function of forest ecosystems at the tree, stand and landscape scale, including: effects of the abiotic and biotic environment upon plant abundance, distribution and diversity; nutrient, carbon and water cycles; population and community ecology; disturbance; forest management and conservation; and climate change. The focus will be on forests of British Columbia, but Canadian and global forest ecosystems are discussed.

INTENDED LEARNING OUTCOMES: By the end of the course, students should be able to think, write and speak effectively about:

- the structure and function of forest ecosystems locally, nationally and globally;
- forest soil properties and processes, hydrology, and water quality;
- biogeochemical, nutrient, carbon and water cycles in forests;
- ecological concepts and principles including forest plant and animal communities, population dynamics, competition, disturbance and succession;
- the effects of climate, moisture, nutrients, genetics, fire, insects and diseases on tree physiology and forest health and productivity;
- the biogeoclimatic classification system of B.C.;
- the practice of vegetation surveys.

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

First Peoples have had a close relationship with the forests of this land for millennia. We understand that Indigenous Knowledge of forest organisms and processes is based on values including kinship with nature, humility, and reciprocity. We should be open to the many different ways of viewing the forests around us and eager to seek out knowledge of all kinds.

TEXTBOOK: *Forest Ecosystems, Second Edition,* 2008, by D.A. Perry, R. Oren and S.C. Hart, published by John Hopkins University Press is the recommended textbook for this course. Any additional course readings for specific lectures will be posted on *Brightspace*.

LAB MANUAL: Lab materials will be posted weekly on *Brightspace.*

COURSE FORMAT: Dr. Hawkins is the course instructor and coordinator. The slides for each lecture will be made available on the course *Brightspace* site. Lectures will NOT be recorded, thus it is strongly recommended that students attend lectures and take notes. All exams will be based on lecture material, and any assigned readings will help reinforce the concepts. Latina Penkova and David Furlonger will coordinate and teach the labs.

LABS: Labs begin on Tuesday, Sept. 9th, 2025. There are two lab sections (B01 – Tue 2:30-5:30 and B02 - Wed, 2:30-5:30). Please attend only the lab section in which you are registered. Most labs will take the entire three hours and many are outdoors, rain or shine, so come prepared with appropriate clothing, rainwear and footwear. Lab material and assignments will be posted in advance on the *Brightspace* site.

The laboratory portion of the course is worth 30% of your final grade. If you miss more than three labs for any reason, even with a medical excuse, you will receive a failing grade (N) in the course.

EVALUATION:	Four reports on guest lectures (2% each)	8%
	Two midterms (13% each)	26%
	Final examination (cumulative)	36% (required)
	Lab	30% (required)

There will be no deferred or supplemental midterm exams. If you miss one midterm, the midterm taken will be worth 19% and the final exam, 43%. If you miss two midterms, the second missed midterm will be given a mark of zero (0) and the final exam will be worth 49%. Deferred final exams will only be considered if a formal Request for Academic Concession is provided.

GRADE CONVERSION:

A+ 90-100%;	A 85-89.5%;	A- 80-84.5%;
B+ 77-79.5%;	B 73-76.5%;	B- 70-72.5%;
C+ 65-69.5%;	C 60-64.5%	
	D 50-59.5%;	
	F <49.5;	

N Failure to complete the lab requirements or the final exam will result in a grade of "N" regardless of the cumulative percentage on other elements of the course. N is a failing grade and factors into GPA as a value of 0.

FIELD EXCURSIONS: There will be several optional field trips over the term. Most trips will be led by experts in an aspect of forest ecology. If you sign up for a trip, please do your best to attend. Field trips include: Sunday, Sept. 14 – Simpson Property Bioblitz; Sunday, Oct. 26 – Simpson Property Fungal Foray; Friday, Nov. 7 – Royal Roads forest ecosystems. Dates are subject to change. Details will be provided in-class and on the *Brightspace* site.

PROPOSED COURSE OUTLINE – FALL 2025

Date	Lecture Topics	Lab Topics
Sep 3	Introduction to the course and forest ecology	No lab
5	Global forest biomes	
9	Forest regions of Canada	BC forests:
10	Malahat Nation perspectives on local forests – *Guest lecture - L. Shaw & D. Goldsmith*	classification and variation
12	Forest zones of B.C. & the BEC system	
16	Primary productivity – transfer and storage of energy:	Methods - forest
17	sources of energy, trophic chains, food webs, ecological pyramids,	community
19	energy & carbon flow, production ecology	sampling
23	Biogeochemical cycling & nutrition	Begin forest
24	"	community
26	Physiography & soils	sampling
30	**National Day for Truth and Reconciliation – no lecture or lab**	No lab
Oct 1	**Oct 1 – Midterm I**	
3	Physiography & soils, continued	
7	Mycorrhizal ecology – *Guest lecture - J.M. Kranabetter*	Forest
8	Ecological roles of light, temperature and water	community
10	"	sampling
14	"	Forest
15	"	community
17	Acclimation, adaptation and evolution – forest variation	sampling
21	Forest population ecology	Forest
22	Forest genetics & assisted migration – *Guest lecture - J. Degner*	community
24	Forest community ecology	sampling
28	Forest disturbance	Soil sampling
29	**Oct 29 – Midterm II**	
31	Natural disturbance – *Guest lecture – J. Antos*	
Nov 4	Forest disturbance – abiotic and biotic disturbance	Lab report
5	"	discussion
7	"	
10-12	**Reading Break – no lectures or labs**	No lab
14	Topics in forest ecology	
18	Fungal communities in forests – *Guest lecture – A. MacKinnon*	Paper
19	"	discussion
21	Forest fauna – *Guest lecture – M. Todd*	
25	Invasive species, historical and current	Lab report
26	"	consultation
28	Climate change and forest resilience	drop-in
Dec 2	Retention forestry – *Guest lecture – J.M. Kranabetter*	Lab report due
3	Discussion of course content and final exam	

Academic Policies and Regulations:
Undergraduate policies and academic regulations are described in the UVic Undergraduate Calendar. Please read very carefully the Policy on Academic Integrity, the Academic Concession Regulation/Guidelines, and Academic Important dates.

Academic Integrity: Students are required to abide by all academic regulations set as set out in the University calendar, including standards of academic integrity. Violations of academic integrity (e.g. cheating and plagiarism) are considered serious and may result in significant penalties. The exams (quizzes, midterms and final exam) and lab report must all be written **individually** and not with a friend or classmate or a group. You are prohibited from sharing any information about the exams with others.

Academic Concession Regulation/Guidelines:
Please refer to the links below when determining what is a 'valid reason' to request an Academic Concession and the process for requesting a concession.
Academic Concessions Regulation and Academic Concession Guidelines

Academic Important Dates:
Check here. It is the student's responsibility to attend to Add/Drop dates published in the Calendar (last day to add courses – Sep. 19, last day to withdraw without failure – Oct. 31). Students must not assume they will be dropped automatically from any course they do not attend. It is also the students' responsibility to check their records and registration status.

UVic Services:
Centre for Accessible Learning (CAL) - UVic is committed to creating a learning experience that is as accessible as possible. If you are registered with the CAL and anticipate or experience any barriers to learning in this course, please feel welcome to discuss your concerns with the course instructor. If you are a student with a disability or chronic health condition, you can meet with a CAL advisor to discuss access and accommodations. https://www.uvic.ca/accessible-learning/index.php

Counselling Services - Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students. https://www.uvic.ca/services/counselling/

Elders in Residence - The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students and others in Indigenous ways of knowing and being.
https://www.uvic.ca/services/indigenous/students/programming/elders/index.php

Health Services - University Health Services (UHS) provides a full service, primary health clinic for students, and coordinates healthy student and campus initiatives.
https://www.uvic.ca/student-wellness/index.php

Mental Health Supports - In addition to providing both face to face and online mental health resources through the Student Wellness Centre, a 24x7 phone & online student mental health resource and support program is available for all UVic students, no matter where they are located, at any time.
https://www.uvic.ca/student-wellness/contacts/emergency-contacts/

Student Support for Online Technology
Learn Anywhere: https://onlineacademiccommunity.uvic.ca/LearnAnywhere/

Sexualized Violence Prevention and Response - UVic takes sexualized violence seriously. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting www.uvic.ca/svp. If you or someone you know has been impacted by

sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). If you want to take part in the important prevention work taking place on campus, you can also contact the sexualized violence resource office in EQHR; Sedgewick C119, Phone: 250-721-8021, Email: svpcoordinator@uvic.ca