Tree Biology

Lecture | Tue/Wed/Fri 1:30 pm | CUN146
Lab | Fri 2:30 - 5:20 pm | CUN118
pvonader@uvic.ca | 250-721-8925

Trees are biologically interesting: they are at the size limits of what an organism can achieve on this planet, they don't move, but yet they can reproduce at great distance. These days we consider trees the bellweather of climate change, which also underscores the fact that humans see trees as reflecting their own lives, i.e. being rooted, ageing, representing important symbols. We turn to trees to improve our cities. At one level trees are an economic mainstay of Canada, at another they form keystone species in our ecosystems. In this course you will learn broadscale aspects of trees, such as biogeography, their responses to factors edaphic and biotic. You will learn other aspects in depth, such as conifer reproduction. There are labs and field trips to reinforce your first-hand experience and your skills. Will you miss the forest for the trees? Not by the end of this course!

Table of Contents

All Lectures

1. WHAT IS A TREE?

2-4. BIOGEOGRAPHY

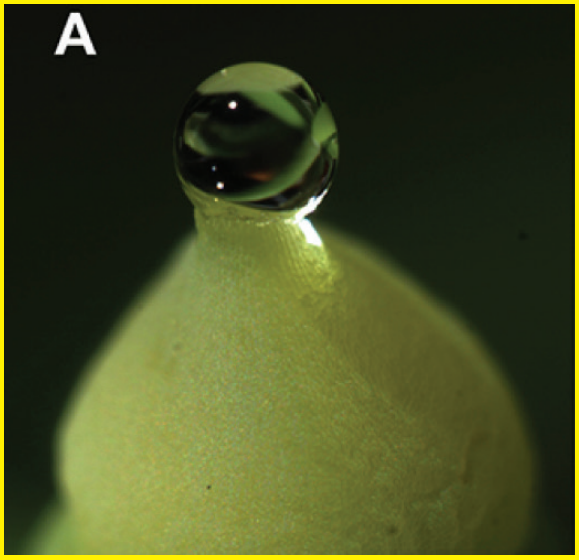
5 & 6. PEOPLE & TREES

7. URBAN TREES

8. ADAPTATION & ACCLIMATION

9-14. TREE MORPHOLOGY & ANATOMY

15-19. REPRODUCTIVE BIOLOGY



20. LEGUMINOUS TREES

21 & 22. TBA

23 & 24. GUEST LECTURES LAURA SUPER

25. HOW TO GIVE A TALK

26 & 27. ANNUAL CYCLES

28 & 29. TREE-INSECT INTERACTIONS

32. DROUGHT

33. FLOODING

Readings for Lectures 15 - 19

Williams, Claire. 2009. Conifer Reproductive Biology – available as an ebook from the UVic Library website

Copy the following link into your browser and you can download the book for free !

https://search.library.uvic.ca/discovery/fulldisplay?docid=cdi_askewsholts_vlebooks_9781402096020&context=PC&vid=01VIC_INST:01UVIC&lang=en&search_scope=MyInst_and_CI&adaptor=Primo%20Central&tab=LIBALL&query=any,contains,Claire%20williams%20conifer%20reproductive%20biology&offset=0

Assigned pages: TBA

Important: Information in readings is testable. The questions are usually obvious.

COURSE DETAILS

Instructor & Course Coordinator: Patrick von Aderkas **Email:** pvonader@uvic.ca
Instructor: Barbara Hawkins **Email:** bhawkins@uvic.ca
Teaching Assistant: Sarah Lane **Email:** slane@uvic.ca
Office hours: by appointment. Offices - PvA-PCH052; BH-CUN151; SL-CUN159

Prerequisite: Minimum B standing in Cell Biology.
Course philosophy: This course introduces students to a range of biological aspects that typify tree growth and their responses to abiotic and edaphic factors. These may be behavioural, molecular or morphological, to give only a few of the possibilities. We will consider features of trees that influence where they are found and how they integrate certain ecosystems. Lectures are supplemented with laboratories that provide experiential learning to improve comprehension and to help to develop scientific and practical skills.

Expectation in terms of number of hours per week

Reading Only one small part of the course has readings.

Safety Net

I would like everyone to succeed, so please avail yourself of these resources.
If you miss a class... lecture notes and/or slide decks will be available in Brightspace following every class.
Practice questions of the exact type in the quizzes will be posted regularly.
Recording Lectures: not in this course, as ECHO360 is problematic in CUN146

What you need to know about evaluation and grading

Quizzes (best 4/5)	*48 %*
Essay	*20 %*
Oral Presentation	*7 %*
Laboratory	*25 %*
Total	*100 %*

NB: There is no final exam

The Quiz mark is based on the best four out of five quizzes. Therefore, each quiz is worth 12 %. Quizzes will cover material covered in lecture as well as in any assigned readings. All quizzes will be online.

Missing a quiz:
If you expect to miss a quiz for any reason, please notify me and we will work out alternative arrangements. If you are not able to give prior notice, get in touch with me as soon as you are able.

Grades at UVic are submitted as percentiles, which is how it will appear on the academic transcript. Percentiles above 0.5 % will be rounded up.

Final Exam: There is neither a final exam nor a supplementary exam.

Important dates in the Fall Term 2022

September 20, Tuesday: Last day for 100% reduction of tuition fees for standard courses. 50% of tuition fees will be assessed for courses dropped after this date.
September 23, Friday: Last day for adding this course.
September 30, Friday: Last day for paying fees without financial penalty.
October 10, Monday: Thanksgiving Holiday
October 11, Tuesday: Last day to drop courses for a 50% reduction of tuition fees. 100% of tuition fees will be assessed for this course dropped after this date.
October 31, Monday: Last day for withdrawing from course without penalty of failure.
November 9-11: Reading Break
November 11: Remembrance Day
December 5, Monday: Last day of class.

Lecture Number	Day	Date	Title	Lab	Quizzes & Deadlines
1	W	Sept.7	What is a tree?		
2	F	Sept.9	tree biogeography	ID lab	
3	T	Sept. 13	tree biogeography		
4	W	Sept. 14	tree biogeography		
5	F	Sept. 16	people & trees	whole tree lab	
6	T	Sept. 20	people & trees		
7	W	Sept. 21	urban trees		
8	F	Sept. 23	adaptation & acclimation	fruit tree lab	
9	T	Sept. 27	morphology & anatomy		QUIZ 1 L1-L8
10	W	Sept. 28	morphology & anatomy		
	F	Sept. 30	**Truth & Reconciliation**	**no lab**	
11	T	Oct. 4	morphology & anatomy		Essay selection
12	W	Oct. 5	morphology & anatomy		
13	F	Oct. 7	morphology & anatomy	**no lab**	
		10-M	**THANKSGIVING**		
14	T	Oct. 11	morphology & anatomy		
15	W	Oct. 12	reproductive biology		
16	F	Oct. 14	reproductive biology	morphology	
17	T	Oct. 18	reproductive biology		
18	W	Oct. 19	reproductive biology		QUIZ 2 L9-L14
19	F	Oct. 21	reproductive biology	culturally impt	
20	T	Oct. 25	leguminous trees		
21	W	Oct. 26	TBA		
22	F	Oct. 28	TBA	grafting	

Lecture Number	Day	Date	Title	Lab	Quizzes & Deadlines
23	T	Nov. 1	Guest - Laura Super		
24	W	Nov. 2	Guest - Laura Super		QUIZ 3 – L15-21
25	F	Nov. 4	How to give a talk	wood anatomy	
26	T	Nov. 8	annual cycles		
		Nov. 9-11	**READING BREAK**		
27	T	Nov. 15	annual cycles		
28	W	Nov. 16	tree-insect interactions		QUIZ 4 L22-L27
29	F	Nov. 18	tree-insect interactions	mycorrhizae	
30	T	Nov. 22	soils & nutrients		
31	W	Nov. 23	soils & nutrients		
32	F	Nov. 24	**Student presentations: start at 1:30**		
33	T	Nov. 29	drought		
	W	Nov. 30	flooding		QUIZ 5 L28-L33
	F	Dec. 2	**Student presentations: start at 1:30**		