

Science & Natural History of Trees

EDU 5627 C14 //Summer 2023

Crow's Path + Castleton University

Instructor: Teage O'Connor

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Class day/time: June 26 - 30, 2023, 8:30am - 4:00pm

Location: Class meets at the North Alliance Church (901 North Avenue, Burlington, VT 05408). We'll meet in the classroom at 8:30 each day and then head out to field sites.

Graduate Credit: Available through Castleton

COURSE DESCRIPTION

During this 5-day intensive (June 26 - 30, 2023), you'll explore what it means to be a tree. We'll cover the basics of identification (including the ecological reasons behind the differences in the shape of leaves, bark, buds, and fruits), how to measure the height, age, timber value, and history of a tree, adaptations trees have for dealing with the ecological conditions of the northern forests, and the role of parasites, invasive species, land-use history, competition, and mutualisms in shaping what our forests look like today. We'll also discuss changes in Vermont's forests since the retreat of the glaciers and what our future forests might look like. For course content, including syllabus, lectures, handouts, resources, and more, visit the participant's page.

ESSENTIAL OBJECTIVES

1. Use a variety of scientific tools and methods to understand what trees are, where they grow, and how they interact with their environment
2. Practice the use of ID keys to identify over 50 species of trees by leaves, bark, and fruits
3. Understand the evolutionary and adaptive significance of the seemingly endless variety of tree forms (morphology)
4. Explore the impact of land-use on forest composition
5. Investigate the symbiotic links between common wildlife (beavers, deer, nesting birds, etc.) and trees
6. Discuss common forest pathogens (native and introduced) and invasive species and the role these play in shaping the composition of Vermont's forests
7. Introduce accessible, free, and easy to use tools (digital maps, websites, apps, and field tools) to study trees
8. Develop awareness practices and observation skills to deepen connection to place and the wild world

REQUIRED TEXTS

There are no required texts for the course. Readings will be made as PDFs. Here are books that I recommend:

- *Forest Trees of Maine* ([available online for free](#))
- *Leaf Guide* by Teage O'Connor ([link](#))
- *Reading the Forested Landscape* by Tom Wessels

The Two "No"s

- **No cell phones at any time during field trips (except for photos, videos, notes), please (texting included)!**
- **No smoking on field trips**

SCHEDULE

Come prepared to spend 3-4 hours in the field each day. You will need the following for field visits: shoes you can go off trail with, a notebook (preferably without lines) and something to write with. Dress weather appropriate (the weather can be fickle!). A light long sleeve and pants will be great to ward off mosquitoes.

Day	Category	Field Site	Assignment Due
Pre-class			Tree Species Profile
Day 1 June 26	What is a tree/ Tree ID	Rock Point	
Day 2 June 27	Measuring trees	East Woods, Red Rocks	Species Presentations
Day 3 June 28	Elevation Gradient	Bolton Valley Resort	Species Presentations
Day 4 June 29	Habitat	Macrae Farm Park, Airport Park, Casavant Natural Area	Species Presentations
Day 5 June 30	Disturbances	Centennial Woods	
Post-class			Field Guide to Your Trees

GRADES + GRADING CRITERIA

Assignment	Due Date
Tree Species Comparison (30%)	Day 1
Species presentation (20%)	Day 2/3/4
Field Guide to Your Trees (50%)	July 14
Total	

Grade	Percentage	Grade	Percentage
A+	>97%	C+	77-80%
A	93-97%	C	73-77%
A-	90-93%	C-	70-73%
B+	87-90%	D+	67-70%
B	83-87%	D	63-67%
B-	80-83%	D-	60-63%
		F	<60%