

**Fall Quarter Syllabus****Program Description**

This all-level program will give students a solid background in forest ecology, evolutionary biology, and the socio-political forces that have shaped forest ecosystems. Central questions we will explore are:

- What is a forest?
- How do we describe forests?
- How do forests change over time and space?
- What forces in current time and throughout history have shaped the forest ecosystems and the organisms within them?
- How have these forces acted on landscapes, forests, communities, species, populations, individuals, and genes?

This program will examine these forces that operate on many different levels of scale—from landscape to organism. These include abiotic factors such as the underlying geology and climatic influences, as well as biotic factors such as competition, succession and resource availability. In addition, we will consider evolutionary forces that shape organisms and their behavior, both in plants and animals, and attempt to explain current observations in terms of evolution and adaptations. A wide range of forest ecosystems—from tropical to boreal—will be used as examples to explore various processes.

Humans have impacted all of the world's forests. Because of the dominant role of humans in global ecology, we also will examine some of the underlying social and political forces that have shaped forests. Students will have opportunities for further growth in written and oral communication, critical reasoning, library research, and fieldwork

Fall quarter will focus on introducing students to the local forest ecosystems, the principles of evolutionary biology and terrestrial community ecology, and field techniques. Winter quarter will focus more on how social and political forces impact forests worldwide. Students will be expected to undertake a significant independent project in the winter.

Credits: 16 each quarter  
research.

Credit awarded in forest ecology, evolutionary biology, technical writing and

**Faculty**

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**Required Texts**

*An Introduction to Tropical Rainforests*, 2nd edition. by T. C. Whitmore: ISBN: 0-19-850147-1

*The Diversity of Life*. by E. O. Wilson: Pub date: July 1999. Paperback with study edition included. ISBN: 0393-989-801

*The World of Northern Evergreens* by E.C. Pielou. 1988. ISBN: 0801494249

*Principles of Terrestrial Ecosystem Ecology* by F. Stuart Chapin III, Pamela Matson, Harold A. Mooney. ISBN: 0387954430

*A Field Guide to the Cascades and Olympics* 2<sup>nd</sup> ed. by Stephen Whitney. ISBN: 0898860776

**Optional Texts**

*Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia, and Alaska* by Jim Pojar, Andy MacKinnon ISBN: 1551050404

*Cascade-Olympic Natural History* by Daniel Mathews Raven ISBN: 0962078212

## Field Trips

## Program fee for overnight field trips: \$105

Fieldwork is an important aspect of this program. As such, there will be weekly field trips on Thursdays and there will be two multi-day field trips. **Two of these field trips will include Tuesdays (10/5-10/7 and 11/9-11/11).** We will go into the field regardless of weather, so good raingear and boots are essential.

## Weekly Schedule:

Please note that we will also be having class during Thanksgiving week (Mon & Wed).

As a result, we will finish the quarter one week earlier than the rest of the school (Dec 3<sup>rd</sup>)

## Supply List

This is a list of required supplies. You will not be permitted to go into the field without items 1–5.

1. Compass. Nothing fancy, but you need to have one for field trips. Even the zipper-pull ones are okay.
2. Emergency whistle. Loud, light.
3. Watch. Pretty difficult to know when to head back to the rendezvous point without this.
4. Rain gear. It's going to be wet out there and getting wet is not an option. The inexpensive type sold at chainsaw shops (coated nylon) works well and is much tougher than the more expensive Goretex etc.
5. *Write-in-Rain* notebook for field notes. Don't need a specific type, just one that is easy to carry and inexpensive.
6. Calculator. Need one with sine, cosine, tangent functions, a  $\pi$  key is handy too. Doesn't need to be fancy, you can get a scientific calculator at Target for about \$9.
7. Three-binder with tab dividers for your portfolio (can also be used for notes)
8. Rubber boots (optional). Paul's preferred foot gear for field work in the PNW. Inexpensive (Del's Farm Supply), tough and they keep your feet dry (totally).
9. Hand lens (optional). Useful for some plant id and looking at interesting microfeatures of just about everything. 10X is sufficient.
10. Binoculars (optional). Nice for tree id in tall trees. Handy for observing variety of organisms from far away.

	Mon	Tue	Wed	Thu
8:00 AM				
9:00 AM	9-1 Lecture/ Workshop Sem II, D 1107		9-12 Lecture/ Workshop Sem II, D 1107	If needed, meet in Lab I 1050
10:00 AM				
11:00 AM				
12:00 PM				
1:00 PM				9-5 Field work/ Lab
2:00 PM				
3:00 PM				
4:00 PM				
5:00 PM	5:15-6:45 Yoga (optional) COM 210			

## Portfolio

You are required to maintain a portfolio throughout the quarter that will serve as a compilation of all your work. We will review your portfolio mid-quarter and at the end of the quarter. Your portfolio (in a 3-ring binder) should contain the following sections.

- Class/ Lecture/ Reading notes—You may choose to put your reading notes in a separate section
- Written answers to the weekly study questions
- Workshops and other writing assignments
- Weekly quizzes
- Field exercises/ Reports
- Your Adopt-a-Spot project can be recorded in a field notebook.

At the end of the quarter, we will provide a checklist for your portfolio. Please keep it organized, it will be a useful resource that way.