

Forest Ecology of the Pacific Northwest

Spring Session, April 1 - June 3, 2009 5 credits Upper Division / 4 credits Grad

The Evergreen State College Class SEM 2 A2109 Wed 6-10 minus field trip time

Instructor: Richard Bigley Ph. D.



Class Description

Forest ecology principles provide a scientific foundation for understanding and meeting many of our most pressing regional and global ecological challenges. Students will receive an extensive primer on Pacific Northwest forest ecology and insight into emerging forest management issues. We will study forest stand structural development pathways, biogeochemistry, forest soils, ecological site classification, and wildlife habitat creation. The class format will include lectures, discussions, and field studies. This course is the companion to ***Toward Sustainable forestry in the Pacific Northwest*** taught alternate years, last offered in 2008. Classes can be taken in independently, or in either order, and are designed to complement each other.

Focus on Field Experience

The field component of the course is the where we will discover firsthand the complexities of NW forests. We will investigate what makes these ecosystems some of the most productive and unique in the temperate world. We will spend 3 weekend days interpreting ecological site types and illustrating materials from the weekday evening lectures. We will use class materials to investigate the rest of the story behind current forest management issues and our roads toward sustainable forest management.

Interpreting Current Issues

It has been a busy decade and a half in the evolution of forest management in the Pacific Northwest. The listing of the Northern Spotted Owl was only just the beginning of some radical changes. We will discuss how forest ecology fueled many of the changes that are still taking place. From wildlife habitat management to restoration of riparian forests and habitats, a working knowledge of forest ecology is the key.

Schedule and Text

SEM 2 A2109 Wednesday evenings 6-10ish (meeting frequency/duration reduced to compensate for field trips)

Required text: **Forest Ecology: A Foundation for Sustainable Forest Management and Environmental Ethics in Forestry** (3rd edition) by James P. Kimmins (available used from Amazon)

Week 1-2: Characterizing forest ecosystems, restoring older forests, Westside forest ecosystems. **Saturday April 4:** Field trip to Capital forest and ecosystem classification; discussion of research projects, ecosystem management experiments- Demonstration of Ecosystem Management Options (DEMO), silviculture options, riparian ecosystem management studies.

Week 2- 4: Forest development, environmental determinates, and emulation of natural processes; current ecosystem management experimentation. **Sunday April 19:** Western hemlock and Sika spruce forest; mgt objectives and land use; how to look at forests; Introduction to plant associations, components of forests; forest floors; intro to the characteristics of old growth, and young forests; TNC forest restoration in Sitka spruce; wind throw; key to plant associations; restoration objectives; describing old growth; reconstructing stand development and disturbance history

Week 5- 6: Ecosystem management and the landscape, use of science by society, Eastside forests, fire ecology. Mid-term Exam

Week 7- 8: Ecological process and function; ***Saturday May 16*** A glimpse of eastside forests over White Pass, climate change: insult to injury for eastside forests, managing risk, fire ecology, the human face of the timber industry, Northern Spotted Owl trends and conditions

Week 9-10: Scientist interviews, recent contributions to forest science, soils. Final Exam



