

# Forest Ecology 330

Lecture: Monday & Wednesday 11:00 – 11:50 AM; University Center 303

Lab: Monday & Wednesday 2:00-5:20 PM; University Center Theatre 311

Lectures should be available via Zoom –

<https://umontana.zoom.us/j/96249476920?pwd=anlZblBhSDdjWEIQMkthZEtGWjR5QT09>

## Instructor:

### **Dr. Peter Kolb**

MSU Extension Forestry Specialist

Adjunct Associate professor of Forest Ecology and Management

W.A. Franke College of Forestry and Conservation, University of Montana

209 Forestry – (Tel) 243-4705 – [peter.kolb@umontana.edu](mailto:peter.kolb@umontana.edu)

Office hours: Wednesday 10:30AM – 2:00PM or by appointment.

## Teaching Assistant:

Robin Rank

Email: [robin.rank@umontana.edu](mailto:robin.rank@umontana.edu)

Office: Clapp 447

## Required Reading:

**Handouts:** as distributed during lecture and posted

**Videos:** <https://forestry.msuextension.org/instructional-videos.html> Northern Rockies Forest Ecology and Management 5 part series

## Suggested Reading:

Forest Ecology, 4<sup>th</sup> Edition, 1998; Burton Barnes, Donald Zak, Shirley Denton, Stephen Spurr

## Grading:

5 homework assignments	25 points	<b>A – 90%</b>
1 midterm – March 3	25 points	<b>B – 80%</b>
Final Exam – April 21	30 points	<b>C – 70%</b>
Labs – 4 total	20 points	<b>D – 60%</b>
	<u>100 points</u>	<b>F – 50%</b>

**Course Objective:**

To provide a thorough understanding of the terminology, definitions, concepts and processes that allow for the function of forests and associated ecosystems with emphasis on the Northern Rockies.

<b>Week</b>	<b>Topic</b>	<b>Suggested Reading (Handouts will be posted)</b>
January 11-15	Forest Ecology Overview; Video Part 1 homework	Barnes Chapter 1, Pfister pages 1-5
Jan 18-22	Landscape and time effects;	Barnes Chapter 2 & 3, Pfister pages 6-14, 29
Jan 25-29	Light, temperature & soils;	Barnes Chapter 8, 9, 11
February 1-5	Climate and topography; Video part 2 homework	Barnes Chapter 7 & 10
Feb 8-12	Tree variation	Barnes Chapter 4, 6
Feb 15-19 1-Pres day	Plant regeneration/migration; Video part 3 homework	Barnes Chapter 5
Feb 22-27	Carbon balances;	Barnes Chapter 18
March 1-5 break	Climate change; Lab 1 – Missoula valley	
March 8-12	Forest communities; Lab 2 – Lolo Pass	Barnes Chapter 15
March 15-19 break	Site quality & evaluation;	Barnes Chapter 13, 19
March 22-26	Forest succession; Video part 4 homework	Barnes Chapter 17
March 29 – April 2	Forest disturbances/fire; Video part 5 homework	Barnes Chapter 16, 12, 14
April 5-9	Biodiversity concepts; Lab 3 Lolo fire	Barnes Chapter 20
April 12-16	Landscape Ecology; Lab 4 Evaro hill	Barnes Chapter 21
April 19-23	World picture – preservation/conservation;	Barnes Chapter 2
April 26-30	Final exam	

**Labs:**

Labs are designed to familiarize you with different Montana forest plant associations and provide real examples of the physical and biological influences on plant distributions and performance, and how these factors are measured. We will be car pooling, taking a bus or van's to various locations within 1-2 hours of Missoula depending on Covid rules. Be prepared to walk ½ to 1 mile in sun, rain or snow.

**Equipment needed:**

Good walking shoes – no flipflops  
Appropriate clothing – coat, hat etc. when needed.  
Notebook or Journal to write lab reports in  
Water bottle recommended

**Homework:** Complete questionnaires/study guides for 5 video presentation.

Content should be short answer typed double spaced, complete sentences with proper grammar.

All works should be your original work – copied work will result in “0” for both authors.

**Lab Reports:**

Content required in report for each lab (1-3 pages written or printed neatly)

1. Location and forest plant communities visited. 1 paragraph descriptive.
2. Indicator plants for each site: Tree species, shrubs, forbs, grasses, sedges.
3. Natural history of site: disturbance regime, defining process
4. Implications of human use, potential management actions on the future (100 years from now)

**Grading:** Home work and Lab write-ups must be turned in on time! They will be evaluated for concept thoroughness, and returned.

**Office hours:** upon appointment – e-mail me to schedule a time.