Course Description and Objectives

This course offers a broad inquiry into the complex ecology and history of the extensive Columbia River Basin. *Ecology and History: Landscapes of the Columbia Basin* is an interdisciplinary course involving scholars and experts from the three states in the Columbia Basin and from a wide variety of disciplines: science, law, anthropology, and history. These regional experts deliver lectures in a variety of formats with graphic illustrations to guide students through a chronological examination of the natural, physical, and cultural world of the Columbia Basin as it has evolved since its geologic formation. Students are asked to give special attention to the interface between humans and their surrounding landscapes and explore the wide-ranging, cultural disturbances that have taken place and the effects of those disturbances on natural processes and landscapes.

Students in this course will:

- Become acquainted with the diversity and characteristics of ecoregions of the Columbia River Basin.
- Trace the major events in the geological history of the basin.
- Understand the differences in the adaptation to ecoregions and natural resources by Native Americans, EuroAmerican settlers, and modern inhabitants of the basin.
- Learn basic concepts of landscape ecology dealing with time, space, scale, and pattern of natural and human-influenced landscapes.
- Consider the connection between structure of the landscape and function of ecosystems within that landscape.
- Be able to explain human-induced changes in historical perspective.
- Understand that historical impacts on the environment have left lasting legacies.
- Discuss how human perceptions toward natural resources and the environment have changed through time.
- Complete a theme-based or place-based historical reconstruction of a topic or site within the basin.
Course Materials and Learning Resources

**Lectures:** All course lectures are on videotape, available from the Department of Fisheries and Wildlife at additional cost (1-800-261-7049).

**Websites:** The course Internet site ([http://oregonstate.edu/instruct/fw470](http://oregonstate.edu/instruct/fw470)) will be used to share information, maps, photographs, and historical reconstructions pertaining to the Columbia River Basin. The OSU Blackboard site ([http://my.oregonstate.edu/](http://my.oregonstate.edu/)) is a password-protected website for enrolled students to participate in discussion boards, communicate with other students and the instructors, and check grades.

**Required Readings and Course Materials:**


Syllabus

Ecology and History: Landscapes of the Columbia Basin
STUDENT PERFORMANCE and EVALUATION

Examinations

Midterm Essay Exam, Week 5. 30%
1 hour at the beginning of class, closed notes
Covers all lectures to date and the following readings:
  Langston (all)
  Nassauer (Chap. 1-3)
  Robbins and Wolf (all)
Graduate students will have a different selection of questions.

Final Essay Exam, Week 11 30%
2 hours, closed notes
Comprehensive – all lectures, previous readings, and the following additional readings:
  White (all)
  Lesley (all)
  Nassauer (Chap. 4-8)
  Quigley and Bigler Cole (all)
Graduate students will have a different selection of questions.

Written Report: Historical Reconstruction, Week 10 30%
Each student will write and illustrate an historical reconstruction of a “natural landscape” from some point in the past to recent times, tracing and explaining historical and ecological changes in this landscape and emphasizing the weekly themes covered in this course. Topics may be either place-based or theme-based and must be within the Columbia River Basin. Proposed topics and preliminary references must be submitted by Week 3. Detailed instructions and examples will be provided on the course website.

Undergraduates  The historical reconstruction should be a minimum length of 8 pages of text, typed, double-spaced. Maximum length is 12 pages of text (plus maps, photos, and illustrations).

Graduate Students  The historical reconstruction should be a minimum length of 12 pages of text, typed, double-spaced. Maximum length is 16 pages of text (plus maps, photos, and illustrations).

The historical reconstruction written report is due no later than Wednesday of Week 10 in both hardcopy (paper) and digital formats.

Discussions 10%
Students participate in discussions of course themes and readings on the OSU Blackboard website (Discussion Boards).
Course Themes

1. Introduction to the Course
   a. Welcome from President Risser
   b. Framing the historical and ecological context through a visual tour of the Columbia River Basin
   c. An introduction to Landscape Ecology
   d. Case Study: The changing landscape of Celilo Falls

2. Climate and Geology:
   a. Climate/weather patterns of the basin
   b. Volcanism
   c. Floods, Glaciation
   d. Paleoeocology

3. Native American Landscapes (ca 1800)
   a. Human agency and ecological modification
   b. Fire and other cultural (anthropomorphic) disturbances
   c. Natural settings and subsistence practices
   d. Native Americans: connections with nature

4. Epidemic Disease and the Demographic Make-over
   a. Exogenous diseases and native people
   b. Introduced flora and fauna
   c. "New" people and new values
   d. Alteration of fire regimes

5. Cultural Disturbance Regimes: Land-based

6. Cultural Disturbance Regimes: Waterways
   a. Canals and locks: channelizing rivers
   b. Salmonid species and anthropomorphic disturbances (1800s)
   c. Wetlands

7. Industrial Disturbances
   a. Large ungulates in the grasslands
   b. Steam technology and ecological change
   c. Industrial forestry

8. The Great Depression and the Large Water Projects
   a. Overview, ecological implications
   b. Engineering the Great River
   c. Reclamation of the Land
   d. Water rights: Law and ecology

9. Toward Systemic Ecological/Environmental Change (post 1945)
   a. Effects on aquatic life; salmon
   b. The advent of chemicals and synthetics
   c. Urbanization
   d. Overview/Summary of landscape change in the Columbia Basin

10. Implications for the future
    (PROJECT DUE)
    Questions of stewardship
    Roundtable discussion

11. FINAL EXAM
Instructional Coordinators

William G. Robbins, Distinguished Professor, Department of History, brobbins@orst.edu, 541-737-1270

Role: Instruction in Environmental History of the Northwest; assistance with questions on course content pertaining especially to history and ecology; student evaluation.

Paula J. Minear, Distance Education Coordinator, Department of Fisheries and Wildlife, Paula.Minear@orst.edu, 541-737-1958 or 800-261-7049

Role: Course Management; assistance with questions on course content pertaining especially to ecology, fisheries, watershed or landscape processes; student evaluation.

Funding Support

Development of this course was made possible by a major grant from the U.S. Department of Agriculture, with assistance from OSU Distance and Continuing Education and Communication Media Center, the Oregon Historical Society, Oregon Public Broadcasting, and the Center for the Study of Columbia River History.

OSU Policies

Academic Integrity

Students are expected to be honest and ethical in their academic work. Academic dishonesty is defined as an intentional act of deception in one of the following areas:

- cheating- use or attempted use of unauthorized materials, information or study aids
- fabrication- falsification or invention of any information
- assisting- helping another commit an act of academic dishonesty
- tampering- altering or interfering with evaluation instruments and documents
- plagiarism- representing the words or ideas of another person as one's own

Students with Disabilities

Students with documented disabilities, who may need accommodations, who have any emergency medical information the instructor should know of, or who need special arrangements, should consult with the instructor prior to the second week of the term.

Syllabus

Ecology and History: Landscapes of the Columbia Basin