

Landscape Ecology
ESM/Geography 418/518
Spring 2011

Instructor: Dr. Robert M. Scheller. Environmental Sciences & Mgmt.
email: rmschell@pdx.edu

Office Hours: Thursdays from 1-3pm or by appointment.

Time and Location: Tuesdays and Thursday from 10:00-11:50.
Science Bldg 2, Room B1-82 (in the basement).

What is Landscape Ecology?

Landscape ecology is an emerging discipline that recognizes that many systems - both natural and human - cannot be fully understood outside of their geographic context.

Landscape ecology recognizes that spatial patterns and heterogeneous environments are critical factors in understanding how systems work across a range of scales.

Landscape ecology provides concepts and theory that incorporate spatial patterning and spatial interactions into the dynamics of complex systems.

Landscape ecology has developed robust methods for characterizing spatial patterns and estimating how they might change through time.

Fundamental concepts of landscape ecology serve as foundations for decision-making and problem solving in applied fields such as conservation biology, land-use management, and urban planning and development.

Course Objectives:

Introduction to Landscape Ecology will explore the principles of landscape ecology as a framework for landscape research, analysis and management. This course will: 1) synthesize the dominant themes of landscape ecology; 2) familiarize students with current research trends in the field; and 3) explore applications of the landscape approach. The course is expected to be useful to graduate students and advanced undergraduates in natural resources, ecology, conservation biology, landscape architecture, geography, land use planning, and other fields.

Students will explore the concepts, methods, and applications of landscape ecology with 1) class lectures by the instructor and recognized experts in particular subject areas, 2) reading and discussion of literature representative of research in the field, and 3) completion of hands-on exercises designed to provide experience with quantitative tools of landscape ecology.

Format: This course will meet two times a week for lecture or discussion. The text for the course is *Landscape Ecology in Theory and Practice*, Turner, M. G, R. H. Gardner, and R. V. O'Neill. 2001. Springer-Verlag. It is available at the PSU Bookstore. Additional readings, updates to the syllabus, periodic handouts, and other materials will be posted at the course web page.

Prerequisites: Graduate student or junior or senior standing, and an ecology lab course beyond the introductory level. Recommended courses: **GEOG 313 (Biogeography) or BIO 357 (Ecology).**

Evaluation:

Grades will be based on discussions (20%), a mid-term exam in week 5 (25%), a final (25%); and assignments (30%). Grades will be assigned on a point basis. There will not be any opportunities for making up exams.

Undergraduate (418) discussions will be evaluated based on the quality and quantity of participation.

Graduate students (518) discussion will be evaluated based on summaries of the material and the discussion for each day that you are a discussion leader. There will be 5 opportunities to lead for each graduate student, worth 4% each summary. Discussion summaries should be no more than 2 double-spaced pages.

Any student activity in the course (written or verbal assignments) can be used for the purposes of assessment of student learning in the class.

Assignments:

Assignments will be given during regular classes as well as discussion days that are spaced over the semester. Assignments will often require collaboration with other students or will require using material directly derived from the discussion sections. Therefore, participation in classes is critical. Please inform me (via email) if you will be missing any classes. Other assignments will include three short labs and participation in all discussions. **Graduate students** will be responsible for leading small discussion groups and summarizing the group's conclusions.

Sickness policy:

You are encouraged NOT to attend class if you are sick with the flu or any other contagious disease. Do not bring your sick children to PSU either. You should stay away from school and other crowds until your fever has been gone for 24 hours (without medication).

If the lecturer is sick, you are still responsible for reading the lecture notes from that day and any reading. All assignments are due on time whether or not the lab or lecture instructor is sick.

Final Grades: All course components will be graded on a percentage basis, adding to 100%. Final grades will be assigned according to the scale below. Upward adjustments to this scale *are possible but unlikely*.

Grade	% of possible points	Grade	% of possible points
A	94.5	C	76.5
A-	91.5	C-	73.5
B+	88.5	D+	70.5
B	85.5	D	67.5
B-	82.5	D-	64.5
C+	79.5	F	Below 64.5