

**GEOGRAPHY 519
H(3-2) Area III**

Landscape Ecology

Instructor: Darren Bender

Official Course Description:

Concepts and methods for examining the spatial pattern of natural and managed landscapes and their effects on ecological processes. Applications in land management and biological conservation will also be considered.

Prerequisite:

This course is designed to be taken by students majoring in Geography, Environmental Science or Biology. The calendar prerequisites are as follows:

One of Geography 313 or Biology 313 and one of Geography 339 or Biology 315 or consent of the Department. At least one of the following is also strongly recommended: Geography 417, 421, 517 or Ecology 419, 439, 501.

Supplementary Fees: (field trips etc). N/A

Overview:

This course provides an introduction to the multi-disciplinary field of landscape ecology. The course integrates concepts and theory from geography (particularly geomorphology, soil sciences, biogeography, natural resource management, and GIS) and biology (particularly conservation biology, ecosystem ecology, population ecology, and population genetics).

The goal of the course is to teach the history, theoretical foundations, and fundamental applications of the science of landscape ecology. To accomplish this goal, a combination of lectures, tutorials and lab-based practical exercises will be undertaken. Key topics will include:

- History and definition of landscape ecology, its relationship to other subfields of ecology
- Causes of landscape pattern (abiotic, biotic, human land use and disturbance)
- Data for studying landscapes (GIS, remote sensing)
- Measuring landscape pattern (spatial statistics, landscape pattern analysis)
- Landscape disturbance dynamics
- Effects of landscape pattern on organisms, populations, communities and ecosystem processes
- Conservation ecology and landscape-based ecosystem management

Lab Assignments and Tutorials:

Throughout the term, lab-based exercises and tutorials will be assigned on alternating weeks. Labs will be scheduled in the Department of Geography's GIS Laboratory (ES 307). Tutorial sessions will be scheduled in the same room as the lecture periods (to be confirmed).

Text(s)/Readings:

One of the following texts is recommended for the course:

Turner, M.G., R.H. Gardner, & R.V. O'Neill. 2001. *Landscape Ecology in Theory and Practice: Pattern and Process*. Springer-Verlag, New York, NY. 403 pp. [*best suited to Biology students*]

Burel, F. & J. Baudry. 2003. *Landscape Ecology: Concepts, Methods, and Applications*. Science Publishers Inc., Enfield, NH. 362 pp. [*best suited to Geography students*]

A lab manual and any required readings will be made available electronically on the University of Calgary Blackboard system (<http://blackboard.ucalgary.ca>).

Readings/Manual:

The lab manual and required readings will be made available electronically on the University of Calgary Blackboard system (<http://blackboard.ucalgary.ca>).

Grading System:

Students will be evaluated in two areas: (1) their knowledge of lecture materials, and (2) practical assignments/tutorials. The midterm test and final exam will evaluate the students' knowledge of the conceptual issues and theory of landscape ecology. The application of this knowledge will be evaluated through laboratory assignments and tutorials. In addition to achieving a passing grade overall for the course, students must also achieve passing grades in both the tutorial and laboratory components to pass the course.

The distribution of marks will be:

- 20% – Mid-term test
- 40% – Laboratory assignments (4)
- 10% – Tutorial participation (5)
- 30% – Final exam (to be scheduled by the Registrar's Office)

Grading System:

Grade	Percent	Description
A+	95.0 - 100	Outstanding
A	90.0 - 94.9	Excellent – superior performance showing comprehensive understanding of the subject matter
A-	85.0 – 89.9	
B+	80.0 – 84.9	
B	75.0 – 79.9	Good performance – clearly above average performance with knowledge of subject matter generally complete
B-	70.0 – 74.9	
C+	65.0 – 69.9	
C	62.0 – 64.9	Satisfactory performance — basic understanding of the subject matter
C-	59.0 – 61.9	
D+	55.0 – 58.9	
D	50.0 – 54.9	Minimal pass — marginal performance; generally insufficient preparation for subsequent courses in the same subject
F	<50.0	

For additional detailed course information posted by the Instructor see Blackboard at:
<http://blackboard.ucalgary.ca/>

Academic Misconduct:

Students are required to be familiar with the University of Calgary regulations pertaining to academic misconduct, particularly plagiarism. This course will have a zero-tolerance policy for academic misconduct. Please consult the 2003-2004 University Calendar for details on Student Misconduct.

Plagiarism

Academic dishonesty is not an acceptable activity at the University of Calgary and students are **strongly advised** to read the Student Misconduct section in the University Calendar. Quite often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are 1) presenting another student's work as your own 2) presenting an author's work or ideas as your own without proper referencing and 3) using work completed for another course. This activity will not be tolerated in this course and students conducting themselves in this manner will be dealt with according to the procedures outlined in the calendar.

Disability Resource Centre Accommodations

It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 220-8237. Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the start of this course.

Re: Posting of Grades and Picking-up of Assignments

- All assignments will be handles on Blackboard.
- Their own grades will be available to each student on Blackboard by password access. Grades will **not** be available at Geography's main office.

Contact Information for Student and Faculty Representation

- SU VP Academic Phone: 220-3911 and e-mail: suvpaca@ucalgary.ca
- SU Faculty Rep. Phone: 220-3913 and e-mail: socialscirep@su.ucalgary.ca

Campus Safewalk

Campus Security, in partnership with the Students' Union, provides the Safewalk service, 24 hours a day, to any location on Campus including the LRT, parking lots, bus zones and University residences. Contact Campus Security at 220-5333 or use a help phone, and Safewalkers or a Campus Security officer will accompany you to your Campus destination.