

**FORESTRY 415**  
**Fall, 2006**

**COURSE TITLE:** Urban Ecosystems

**CLASS LOCATION:** AG 218

**MEETING TIME:** TR 1:00 – 2:15

**INSTRUCTOR:** Dr. Jon E. Schoonover  
Agricultural Building  
Office #: 453-7468  
Office Hours: Open door policy  
Email: [jschoon@siu.edu](mailto:jschoon@siu.edu)

**A. Catalog Description:**

An introduction to fundamental concepts and processes associated with urban environments. Emphasis is on physical, chemical, and biological stresses imposed on landscapes and water resources influenced by land use conversion and subsequent urban sprawl.

**B. Prerequisite:**

Junior or Senior standing or permission from the instructor.

**C. Objectives:**

To understand that cities are urban ecosystems that include both nature and humans, in a largely human-influenced environmental context. Further, to recognize that urban ecosystems are complex environments that often require interdisciplinary approaches to fully understand the potential for environmental change.

**D. Course Outline:**

1. Introduction to the Urban Environment
2. The Wildland-Urban Interface
3. Drivers of Land Use Change
4. Environmental Consequences of Land Clearing and Urban Development
  - Impervious Surfaces
  - Soils
  - Wastewater
  - Fragmentation
5. Impacts on Streams
  - Urban Pollutant Sources
  - Water Quality

- Hydrology
- Channel Morphology
- Stream Biota
- 6. Impacts on Soils
  - Physical and Chemical Soil Disturbance
  - Soil Biota
- 7. Urban Wildlife
  - Human Conflicts
  - Management Possibilities
- 8. Air Pollution
- 9. Interdisciplinary Research in Urban Environments
  - Urban LTERs
  - Center for Forest Sustainability
- 10. Management of Urban Environments
  - Constructed Wetlands / Detention Basins
  - Porous Pavements
  - Urban Planning
- 11. Benefits of Cities

**E. Recommended Text:**

There is no single text that covers the complexities of urban environments, thus peer-reviewed manuscripts and a variety of books will be the primary sources of information in this course. Examples of texts that will be referenced when discussing specializations within the urban environment include:

Amanda Azous; Richard R Horner. 2000. Wetlands and Urbanization: Implications for Future.

Susan W Vince; Mary L Duryea; Edward A Macie; Annie Hermansen. 2004. Forests at the Wildland-Urban Interface: Conservation and Management.

Timothy R Lazaro. 1990. Urban Hydrology.

Clark E Adams; Kieran J Lindsey; Sara J Ash. 2005. Urban Wildlife Management.

## **F. Grading:**

3 hourly exams	100 pts
1 comprehensive final	150 pts
4 quizzes	25 pts
1 laboratory report	50 pts
<b>Total Points</b>	<b>600 pts</b>

\*\*Late assignments will be penalized 20% per day and will not be accepted once graded assignments are returned.

\*\*No make-up exams or quizzes without prior arrangement with instructor.

### Grading Scale:

A = 90 – 100%
B = 80 – 89.49%
C = 70 - 79.49%
D = 60 – 69.49%
F < 59.49%

## **G. Academic Honesty Policy:**

The academic honesty policy will follow the Student Conduct Code, section II, article A.

## **H. ADA Special Accommodations:**

In keeping with the goal of the implementation of the Americans with Disabilities Act (ADA), all students for whom the act applies should notify the instructor no later than the second session of the course so that arrangements can be made for accommodations to meet your educational needs and maximize learning.