Spatial Analysis and Modeling

Michael Treglia

Landscape Analysis and Modeling

Course Number:

Instructor: Michael L. Treglia

Course Description: Understanding spatial relationships across landscapes can provide critical insight into evolutionary and ecological patterns and processes. This course will focus on quantifying spatial relationships, using spatial interpolation techniques to estimate environmental variables at unmeasured points, and modeling connectivity across landscapes. The course will take advantage of powerfull free and open source software for GIS and statistical analyses.

Grading:

Grades will be assigned accord

Points	Item	Due Date
5	Participation	N/A
60	Final Project	April XX
100	***Total***	

- Theory/background:
- What students should expect to learn
- What tools will be used In *Landscape Analysis and Modeling* we w

Schedule

Week 1: Intro to GIS and Landscape Ecology

Day 1

Assignment Due: None

- Readings:
  - None
- Agenda:
  - Introductions
  - Logistics
  - Lecture: Introduction to GIS and Landscape Ecology

Day 2

Assignment Due:

- Readings: **Might Change to Turner 2005 Ecology**
  - Wiens, J.A., 1989. Spatial scaling in ecology. **Functional Ecology** 3, 385-397.
- Agenda:
  - Discuss Wiens 1989
  - Exploring QGIS (Computer Exercise)

Week 2: Spatial Dependence and Spatial Autocorrelation

Day 3

Assignment Due:

- Readings

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

Week 13

Week 14

Week 15