Instructor: Corey Devin Anderson, Ph.D.

Lecture location: BSC 1025

Final Exam: TBA

Office: 1208 Bailey Science Center

Course description:

A survey of key concepts and statistical methods for the statistical analysis of spatio-temporal data, geared toward environmental and life sciences, but open to all relevant disciplines. The course is intended to complement existing courses in Geographic Information Systems (GIS) and biostatistics, which do not cover the statistical analysis of spatially dependent data.

Some overlap exists between the present course and GEOG 4710 (Statistics for Geoscientists); however, the purview of the present course extends beyond geostatistics. The present course emphasizes traditional univariate and bivariate spatial pattern analysis. However, recent developments in the analysis of the spatial data are also introduced (e.g., multivariate ordination, Bayesian Hierarchical Modeling, and Empirical Hierarchical Modeling).

The lecture part of the course emphasizes the basic theory underlying the various statistical methods/models, supplemented by outside readings from both a textbook and the scientific literature. Mastery of lecture concepts will be assessed via in-class examinations and take home problemsets.

Standards