SES Mathematical Modeling

Prerequisites: A basic grasp of calculus

Course Summary

Ecology is a relatively young science that grew from the largely descriptive discipline of Natural History. As the science has matured, it has begun to develop a firm quantitative foundation. For the most part, this foundation has been statistical (Regression, Correlation, Analysis of Variance, Ordination). The purpose of this course is to introduce the students to the other component of this quantitative foundation, dynamic simulation modeling of ecological processes.

The students will first be exposed to the role of models in science and the relationship of models to scientific theories. Then the basics of calculus are reviewed in the context of the mass-balance concept.

Grading

Your final course grade depends primarily on the Modeling Independent project which is graded in two parts, an oral presentation, and a final paper.