REM 667 – Spring 2010: Advanced topics in Applied Quantitative Ecology (Spring 2010, 3 credits, 2 hours / week) – Andy Cooper

The goal of this seminar-styled class is for students to work together to understand and implement some of the cutting-edge modeling and statistical methods used in applied quantitative ecology. Each week, a different student (or students) will, after meeting with the instructor, present the rationale behind their research project along with the data they have collected thus far and their thoughts on the appropriate methods. Presenters will be chosen to ensure as diverse a range of approaches as possible. As a group, the class will then discuss the range of quantitative methods applicable to the student's project (e.g., the assumptions behind the methods, how the methods differ, etc.), ask questions of the presenters, and give advice on the preferred method along with suggestions as to additional questions that may be addressed using the data. Readings on the proposed methodologies will be provided ahead of time, and when appropriate, the instructor will give mini-lectures on some of the relevant methods. Topics covered in the Spring 2009 version of this included hierarchical models, zero-inflated models, regression trees, discrete choice models, structural equation models, meta-analysis, AIC model selection, and how to deal with multicolinearity (note: few, if any, of the students knew anything about these methods prior to taking the class). The specific topics covered will depend entirely on the research of the students who enroll. Grades will be based on participation.

Prerequisites: Advanced graduate students who have already begun data collection