Syllabus for BIOL 669: Advanced Ecological Statistics with R  Spring 2018
Meeting time: TBA
Location: TBA

Instructor

James Umbanhowar  Research Assistant Professor of Biology
Office: Genome Sciences Building 4252 and Mitchell 121, Email: jumbanho@unc.edu

Description

In this course we will be investigating the design and practice of manipulating, curating and sharing data. Data is the fundamental currency of ecological analysis and as such, there must be supreme confidence in its reliability. In this course we will discuss the lifetime of data, from planning to preservation with a focus on the available tools to facilitate this process. We will focus on using the R language and associated programming tools. In addition, we will discuss the broader aspects of reproducible research as it applies to data manipulation and analysis. Students will develop their own data management project.

Prerequisites

I expect you all to have a fairly strong background in R– the equivalent to BIOL/ENEC 562 or 563.

Text

We will be reading a variety of primary and secondary literature that will be posted on Sakai.

Grading

Course grade will be determined on weekly assignments and a take home final exam.
Class presentation: 40%
Final project: 40%
Class participation: 20%

Students receiving above 80% will receive a P in the course.
Course policies

- Students are expected to complete weekly reading and peruse any code that will be reviewed for the week.

- Attendance is not required, but absence will be noted in participation grade. Please contact me if you cannot make it to class.

- Final projects are due at 7pm on May 8th.

Preliminary Course schedule

Week of Jan 15: Reproducible research using Rmarkdown.
Week of Jan 22: Reproducible research discussion
Week of January 29: Programming issues
Week of February 5: Reproducible reports
Week of February 12: Version control
Week of February 19: Archiving
Week of February 26: Planning and creating data
Week of March 5: Processing data
Week of March 19: Documenting and preserving data
Remainder of semester: Student presentations