Quantitative Thinking in the Life Sciences
Tentative Course Schedule Fall 2013

Week	Date	Class topic	Computing component
1	Aug 26	Learning to think about the questions driving your research, the data necessary to answer those questions, and techniques to analyze those data	Introduction to R
2	Sep 2	Discuss the questions are driving your research. Data – what is it? Histograms. Concept maps.	Data and coding
3	Sep 9	Probability: From counting beans to counting cards. The real scientific method – an iterative process.	Matrices, arrays and loops
4	Sep 16	Distributions: What are distributions? What do they tell us about the data? What are some likely distributions in your system?	Editing in R
5	Sep 23	Variation, variance, and measures of central tendencies	Loops, nested loops, and if-then statements
6	Sep 30	Measurement error: Precision and Accuracy	Elements and loops
7	Oct 7	Basic mathematical relationships	The Normal distribution
8	Oct 14	Introducing modeling (e.g., linear models, growth rate models)	Distributions
9	Oct 21	Composing static models of ecological processes. Can we turn your Concept map into a quantitative model?	Plotting

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11	Nov 4	The concept of parsimony. Likelihood, maximum likelihood	Population modeling in Excel and R, elk growth rate model
12	Nov 11	Using your textbook as a guide	Class project
--	Nov 18	Class Recess	
13	Nov 25	Using your text book as a guide	Selecting among alternative models
14	Dec 2	Simulating data and colinearity	Class project
Finals Week	Dec 7 Finals	Start of Finals: Class project due	