Ecology 425 – Course Outcomes

At the end of this course you should be able to:

1. Contrast and identify empirical and mechanistic models

2. Explain the analysis of steady-state and dynamic behavior using graphical ISA Klein techniques

3. Develop simple compartment models, identify functions parameters in state variables and write corresponding coupled differential equations

4. Critically evaluate the logical model structure using dimension analysis

5. Use least-squares and maximum-likelihood methods for parameter estimation and frequentist and information-theoretic methods for hypothesis testing and model selection

6. Appreciate fundamental concepts of study design and implement them in the construction of effective designs given specific hypotheses

7. Identify general or generalized linear models that respect specific study designs and data characteristics

8. Correctly analyze general and generalized linear models to test biological hypotheses

9. Interpret the biological meaning of statistical results