

**BIOL 7050: "Experimental Design and Biological Data Analysis", Fall 2019**

Dr. Brad Bergstrom  
[bergstrm@valdosta.edu](mailto:bergstrm@valdosta.edu)

9-9:50 am, 1202 BSC  
Offc Hrs 10-11 MW, 2-3 M; other

While I can't require it, it would be advantageous if you had a laptop available to bring to class, with Microsoft Excel installed, particularly on days when we do some data analyses as a group.

Notes on Final Experimental Design Protocol: this will be, essentially, an Introduction and Methods (with partial Literature Cited) of a scientific paper, with emphasis on: 1) justifying your specific hypotheses in the context of your species/system, with preliminary literature review, and 2) specifying the precise methods and all details for sampling, including manipulating explanatory variable(s), measuring effect on response variables, and specific statistical tests needed. Give details of replicates, sample size (do calculations of  $n$  needed for particular power and precision desired), temporal, ecological, spatial scope of study, grain of sampling units, etc. Also specify types of graphs that will be used to display data. Unlike the Methods section of an actually published paper (which is written in past tense), you may write this in future tense, because it is a proposal for what you *will* do.

Points and Grading:

Initial Questionnaire	30
Collegial Review	15
15 Homeworks @ 10 pts	150
3 Quizzes @ 25	75
Lab analyses	30
Class Discussion	10
Final Design Protocol	50
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TOTAL	360

Lowest A/B/C = Cla P2 ( )TJlilj1717.2 (we -0