

ENVS2001: Field & Lab Methods

DUE SAT. OCT. 31st

Experimental Design Worksheet (1 per team; 2 points per question; 26 points total)

TEAM NAME/NUMBER: _____

TEAM MEMBERS (LIST ALL):

EMAIL:

GOALS & OBJECTIVES

What is your scientific question? (at least 1)

What specific hypothesis(-es) will you test? (at least 1)

What data will you collect to test the hypothesis?

What are your predictions for each hypothesis? What is your expectation for the data you will collect?

EXPERIMENTAL DESIGN CONSIDERATIONS

Complete each question in the space provided, additional sheets can be added as necessary.

Does your question/hypothesis require spatial or temporal sampling? Why?

What are your treatments? What will serve as a control/reference?

What is the level or replication? How will you avoid pseudoreplication?

What covariates should you consider? What other factors should you account for? (keep in mind it may not be feasible to measure everything!)

What will you measure and how will you measure it?

What difficulties might you encounter?

POWER AND SAMPLE SIZE

What is the anticipated effect size between your treatments? For example, what difference do you expect to observe, and would it be important if you observed only 1/2 of the difference?

Based on your review of the literature, how variable might you expect your data to be? Can you report some measure of variation from a similar study (standard deviation or error)?

What sample size is ideal for your study? What sample size is ideal and what can you achieve based on your time and logistical constraints?