

BIOE 498/598, Spring 2020

Homework 2

Due Thursday, 3/5/2020 by 9:00am.

Upload a single PDF with your slides to Compass.

Your task is to design, execute, and analyze a simple experiment using a full factorial design. Your group can choose any experiment you want provided it meets the following guidelines:

1. The experiment must have at least two independent variables, one of which must have at least three factor levels.
2. Your experiment should be simple to execute and understand.
3. The response must be a continuous variable.

Your final slides should include the following:

1. A description of the experiment (variables, levels, response, units, etc.)
2. At least one photo of the experiment.
3. Strategy and justification for replicates (dropping higher-order coefficients or replicating the design).
4. Your experiment design.
5. A significance test of a **contrast** between two levels of a variable.
6. The results of an ANOVA.
7. If any of your coefficients is not significant, a power calculation to determine the number of experiments needed to make it significant.