**BIO 162 Plant Signaling Experiment**

**Logistics**

Week 1

* Introduce essentials of experimental design via fertilizer experiment
* Guide students toward the setup we make for them using worksheet
* Lab 1

Week 2

* Data collection (Fertilizer)
* Lab 2

Week 3

* Data Collection (Fertilizer)
* Lab 3

Week 4

* Data Collection (Fertilizer)
* Lab 4

Week 5

* Long, cumulative quiz/mini-lab practical (45 minutes, tops)
* Data Collection (Fertilizer) & compile class data in Excel
* Introduction of statistical analysis
  + Show them the applet with their fertilizer treatment data (make week 9 stats discussion shorter and the homework more meaningful test of whether they learned the material)
  + Walk through fertilizer hw with students?
* Lab 5 (mini lab about human sensory systems)

Week 6

* TAs introduce auxin experiment
* Day 1 Plant Signaling Worksheet
* Lab 6: Set Up Experiments

Week 7

* Data Collection (Auxin)
* Lab 7

Week 8

* Data Collection (Auxin)
* Lab 8

Week 9

* Lab 9
* Data Collection (Auxin)
  + Get final data complied, email file to class/upload to PolyLearn for students to download
* Statistical Analysis. Could we do a worksheet given that we have already shown them the applet?
  + Applet
  + T-tests
    - What the test is
    - Types of t-tests (paired/unpaired, one/two-way, etc.)?
    - Assumptions (equal variance, large sample)?
    - How to interpret
  + Meaning of a p-value? Alpha value? Type I v. Type II error?
  + Results statements?
* Homework
  + After stats discussion, have students analyze data using the applet
  + Students should complete discussion questions, make a graph of the final class data, report results and submit homework the following week

Week 10

* Turn in Signaling Homework
* Lab Practical