

## WORKSHOP PLAN

### Day 1 (Monday 25, 2005)

1. 9:00 AM Find Room 215 Biology Building  
Overview of workshop- solve all minor details (housing). Overview of campus/Lexington
2. Laboratory safety- where to go and what to do. Take UK on-line lab safety and hazardous waste safety tests.
3. Use of laboratory equipment. David Taylor goes over LABPRO Instrumentation.
4. Animal care: Fruit flies (general biology- life history).
5. Course goals. How to keep a notebook.
6. Set flies up for later studies. 2 hour egg pulse. Let sit over night at room temp.  
(next day look at 1st instars)
7. Show movies for behavioral assays.
7. Lunch 12-1.
8. 1:00 PM Learn how to make measures for data collection.  
BREAK into groups- G1: Behavior of larvae  
G2: Heart rate measures of larvae  
G3: Adult behaviors
6. (2:00-4:00PM). Dr. Viele from the Dept of Statistics will talk on "How to design an experiment & use of statistics"
7. Go over graphing software implementation on lap top computers.

### Day 2 (Tuesday, July 26)

AM: Examine effects of nicotine on behaviors - sensory functions.

PM: Analysis of data- graph and statistics

The instars set up on Monday are ready to prepare for addiction assay.

### Day 3 (Wednesday, July 27)

AM: start on dose-response curves

PM: Analysis of data- graph and statistics

Class data sets compiled. See what is left to complete with behaviors.

The instars set up on Monday are ready to assay (addiction assay for early 3rd instars).

### Day 4 (Thursday, July 28)

AM: How to implement what is learned into their classrooms?

Talk about the neural circuit and actions of Nicotine.

PM: HW assignment- write up experimental design for their classroom and list equipment needs.  
Start to read primary literature on animal behavior and pharmacology.

### Day 5 (Friday, July 29)

AM: Discuss HW assignment and literature provided the day before.

PM: Develop detailed information content for Teachers' students in Middle school. Set up for experiments on Monday.

### Day 6 (Monday, Aug. 1)

AM-PM: Complete experiments and data gathering. Dose response curves of pharmacological manipulations.

**Day 7 (Tuesday, Aug. 2)**

AM-PM: Complete experiments and data gathering. Dose response curves of pharmacological manipulations.

**Day 8 (Wednesday, Aug. 3)**

AM: Statistical computation with Dr. Viele (UK Dept. of Statistics). Ten work stations will be implemented. The goals here are to teach the basics to process data. Which statistical test to use for the data collected? How to describe the data and quantify statistically?

PM: Working on statistical analysis and completing dose response experiments.

Teachers mix teams and a partner teacher the other one what experiments they did and go over their data as well as analysis.

**Day 9 (Thursday, Aug 4)**

AM: Compare wild type and mutant lines of *Drosophila*.

PM: Graph results, writing up, drafting manuscript. Prepare ppt for presentations.

**Day 10 (Friday, Aug 5)**

AM: Behavioral assays in Crayfish. Life history and setting up experiments for classroom use in Middle schools.

PM: Closing session- feed back from teachers. Go over where to obtain the goods they need for their classrooms.

Present some stand ppt files that can be used by the teachers for their classes. Burn CDs and distribute content folders.