Objective: To develop a laboratory exercise for a developmental biology laboratory to investigate the gene expression profiles of *Drosophila melanogaster* at different developmental stages.

Course schedule:

The students are expected to spend up to 10 hours per week working on the tutorial. This will include time in the laboratory, as well as time reviewing papers and writing a literature review and experimental procedure that can be used in future developmental biology classes. The schedule will be developed and modified from the GCAT microarray manual provided to Dr. Bayline from the workshop that he attended in 2009. Several deadlines are listed below:

- Draft of literature review: March 19
- Draft of experimental procedure: April 30
- Final drafts: May 11

Laboratory deadlines will be developed during the course, and will depend upon the progress in the lab. Several key steps that will be evaluated will be:

- Isolation of *Drosophila* mRNA
- Generation of fluorescently-labeled cDNA
- Hybridization of microarrays
- Analysis of microarrays using Magic Tools software

Evaluation:

The tutorial is designed to produce a laboratory exercise that can be performed by students in Bio 202: Developmental Biology. To that end, the tutorial students will be evaluated based on the following criteria:

- Lab performance: 50%
- Literature review: 20%
- Experimental procedure: 30%