

## MCB-3413 Laboratory Changes (COVID-19)

Ultimately, the only change to the curriculum is with the PowerPoint presentation, which now becomes a paper. \*All upcoming “at the bench” work was previously learned and techniques would have been used in upcoming labs. Please see below.

### Remaining Assignments

#### **Drosophila as a Model Organism Part 1: Meiotic Recombination**

- Exercise completed prior to cancellations
- Standard submission (online) and grading

#### **Restriction Digestion and DNA Ligation (Follow-up)**

- Technique: Gel Electrophoresis and obtain results
- **Change**
  - Techniques
    - Gel Electrophoresis
      - The student WILL NOT be performing gel electrophoresis for this exercise, however the technique involved was previously learned and performed this semester (running a gel)
      - Results posted online (results from previous semester)
- Standard submission (online) grading

#### **Real-Time PCR (Follow-up)**

- Techniques: Real Time RT-PCR Reaction set-up
- **Change**
  - Techniques
    - Real Time RT-PCR Reaction set-up
      - The student WILL NOT be performing the set-up for this exercise, however techniques involved were performed multiple times this semester (pipetting using a micropipette)
    - Results posted online (results from previous semester)
- Standard submission (online) and grading

#### **Gene Expression Regulation**

- Techniques: Genetic crosses using *Drosophila melanogaster* (part 1), prokaryote expression regulation using lac operon (part 2)
- **Change**
  - Techniques
    - Genetic crosses using *Drosophila melanogaster*
      - The student WILL NOT be performing the crosses for this exercise, however techniques involved were previously learned and performed multiple times this semester (cross set-ups using fruit fly equipment)
      - Results given via images posted online
    - Prokaryote expression regulation using lac operon

- The student WILL NOT be performing part 2 of this exercise, however techniques involved were learned and performed multiple times this semester (pipetting and working with *E. coli*)
  - Results given via a link to video and images posted online
- Standard submission (online) and grading

### DNA Sequencing and Data Analysis

- Techniques: PCR, PCR purification, gel electrophoresis, data analysis
- **Change**
  - Techniques
    - PCR and PCR purification
      - The student WILL NOT be performing this, however techniques involved were performed multiple times this semester (pipetting using a micropipette)
    - Gel electrophoresis
      - The student WILL NOT be performing gel electrophoresis for this exercise, however techniques involved were previously performed this semester (running a gel)
    - Data Analysis
      - Samples normally sent out for processing
      - Results will be posted online (results from previous semester)
- Standard submission (online) and grading

### Current Genetic Research on Human Diseases (Group Presentation)

- Techniques: Use online resources and collaborate with a partner to create a PowerPoint presentation (no bench work)
- **Change**
  - Techniques
    - Use online resources (no change)
    - Collaborate with a partner
      - This will change to “work alone”
    - Create a PowerPoint presentation
      - This will change to submit a 4-6 page paper (double spaced)
- **Grading Change:** Online submission and graded using a new rubric, which will be posted

### Class Participation

- Use previously documented participation information
- Class participation for remaining of semester will be assessed via online discussion board presence

### Laboratory Practical

- They will take an on-line modified version with additional questions, which will be randomized
- Standard Grading