Biology 211
Lab 3
Making and Running Gels

Before Lab

- Familiarize yourself with the features of gel electrophoresis. There are several resources at this web site that may help you.
  http://learn.genetics.utah.edu/content/labs/gel/
  https://www.dnalc.org/resources/animations/gelelectrophoresis.html
- Write your background on what gels are and what they are used for. What allows them to do what they do? What materials go into the gel? How can you see what is in the gel?
- Write a protocol for pouring and running an electrophoresis gel. The resources above should give you the information that you need to write this procedure. Be sure to note the percentage of your gel.
  - Questions to consider:
    - What difference does the percentage of agarose in the gel make?
    - Why do we add stain? What stain should we use? What does it do?
    - What is a 1kb ladder? What does it do?
    - What running buffer will you use? What does it do?

In Lab

- Pour an agarose gel, adding a stain to the gel
- After the gel is set, load a 1kb DNA size standard ladder and a DNA sample then run the gel.
- Image the gel when it is done with a camera or drawing.

In your background:

- A brief description of every material used, how it works, and its purpose
- A brief description of every specialized item used, how it works, and its purpose

In your results:

- Calculations for creating the agarose gel
- A photo or sketch of your completed gel

In your discussion:

- An error analysis of mistakes you made, changes to your protocol, and how it affected your results