**Week 5: Finish Oral Presentation**

Learning Objectives for Promoter Discovery

*Skills*

* Avoid common mistakes using iBOP Bingo as a resource.
* Optimize PPT presentation to look professional

*Cognitive*

* Employ a scientific approach to answering biological questions and test hypotheses.
* Organize the information you have learned about promoter function.
* Synthesize experimental results for oral presentations.

**Pre-Lab**

Before you come to lab

1) Organize all your data from the synthetic biology module on promoter research.

2) Read the “Hints for Your Oral Presentation.”
[www.bio.davidson.edu/people/macampbell/113/LabManual\_F2022/Bio113F2022\_oralpresentation.docx](https://www.bio.davidson.edu/people/macampbell/113/LabManual_F2022/Bio113F2022_oralpresentation.docx)

3) Answer each of these four questions in two sentences or less.

A) Why did we do PCR and gel electrophoresis on each of your colonies? What did you learn from this experiment?

B) How big should the PCR product be if you have cloned your promoter compared to the original, left-facing, promoter?

C) What types of DNA information do PCR and gel electrophoresis \_not\_ detect?

D) Which part(s) of the promoter determines whether it functioned or not, and why?

**Information: Quantify Phenotype and Start Genotyping**

In Lab

1) Today you will finalize your PPT presentation.

2) Make sure everyone in your group fully understands your presentation.

3) You can go somewhere quiet to practice your presentation if you have time today. Otherwise, make sure each person can give the entire presentation. **The part each person presents will be randomly assigned one hour before lab.**

4) Each group should find the paper that originally defined your promoter and make sure there are no errors in your oligo sequences. If you find any errors, redesign the promoter to improve its function based on your knowledge of how promoters work and the original research publication.