MCB 251 Fall 2019
Laboratory Syllabus

Dates (Week)	Laboratory Topic	Assignments Made	Assignments Due
Aug. 26-30 (Week 1)	Introduction to Techniques in Molecular Biology/Experimental Design	**Designing a Basic Experiment**	**Designing a Basic Experiment**
Sept. 2-6	**Labor Day-No Labs**		
Sept. 9-13 (Week 2)	Introduction to PCR and Agarose Gel Electrophoresis	**-Lab Report #1 -PCR Cycle Sketch**	
Sept. 16-20 (Week 3)	DNA purification and digestion/Reading a Plasmid Map	**-Experimental Design Report (Unknown Plasmid) -Gel Activity Sheet -Basic Design Report**	**-Lab Report #1 PCR Cycle Sketch**
Sept. 23-27 (Week 4)	Implement Experimental Design to Identify an Unknown Plasmid/Isolation and Digestion	**-Lab Report #2**	**-Experimental Design Report -Gel Activity Sheet -Basic Design Results Report**
Sept. 30-Oct. 4 (Week 5)	Determine Identification of Unknown via Electrophoresis. Begin independent experimental design to determine unknown insert.	**-Experimental Plan/Equipment (Unknown Vector) -IE #2 Lab report for unknown plasmid -Lon-Capa #1**	**-Lab Report #2**
Oct. 7-11 (Week 6)	**Midterm Exam (150 points)**		**-Lon-capa #1**
Oct. 14-18 (Week 7)	Begin execution of initial experimental design to determine unknowns/plasmid and insert digestion and analysis	**-Re-evaluation of of experimental plan/second round of materials and equipment request**	**IE #2 Unknown Plasmid lab report -Experimental Plan for unknown Insert**

Oct. 21-25 (Week 8)	Continue execution of experimental design of unknown DNA	**-PCR primer design activity**	
Oct. 28-Nov. 1 (Week 9)	Repeat any experiments from weeks 7/8 experiments as necessary/begin analysis of cloned plasmid		**-PCR primer design activity**
Nov. 4-8 (Week 10)	Continue experiments to analyze cloned DNA/carry out chosen mode of insert analysis	**-Analysis mode #1 Lab report**	
Nov. 11-15 (Week 11)	Continue unknown analysis/confirm identity of insert		
Nov. 18-22 (Week 12)	Re-run experiments as necessary/finish collecting data for unknown experiment and utilize TAs expertise in evaluating assessing and writing up final lab report	**-Analysis mode #2 Lab report**	**-Analysis #1 Lab report**
Nov. 25-29	**No Lab- Fall Break**		
Dec. 2-6 (Week 13)	Powerpoint presentation summarizing experiments performed during weeks 5-12 and discussion of results/data.	**Lon-Capa #2**	**-Analysis of mode #2 Lab report** **-Powerpoint presentation**
Dec. 9-11	No Labs		
Dec. 13-20	**Final Exam. Time and Location TBA**		