Lab quizzes. There will be a 10 point quiz at the beginning of each lab session, so do not be late for lab! The quizzes will be based on material from the previous labs

Tentative Laboratory Schedule, BIOL 1107, Fall 2015

Lab	Week of:	Topic:	Assignments
1	Aug 17	Lab Introduction – What is Science and Ex. 1 Black box/scientific method	
2	Aug 24	Ex. 2 Basics of the Light Microscope	*Quiz 1*
	Aug 31	Ex. 3 Observation of living cells with light microscopy and discuss independent microscopy lab proposals	-------
3	Sept 7	**LABOR DAY WEEK – NO LABS**	
4	Sept 14	Ex. 5 Cellular water relations	*Quiz 2*
5	Sept 20	Ex. 4 Independent group microscope project	*Quiz 3; Begin Assignment 1*
6	Sept 28	Ex. 4 Independent Group Microscope Project *continued*	*Quiz 4;*

Grading Rubric for Assignment #1 Lab Reports: 25 points
Lab Report should be ~ 3-5 pages, Times New Roman 12-pt font, Double spaced, 1 inch margins

Section & Points	Description of Expectations	Points
Title (0.5 pt)	The title is short and to the point and concisely conveys what the paper is about.	
Abstract (1.5 pts)	The abstract contains a well-organized and written, concise and complete summary of the paper.	
Introduction (4 pts)	Successfully establishes the scientific concept of the lab by providing clear and complete background information. Effectively presents the objectives and purpose of the lab. States hypotheses and provides logical reasoning for it.	
	The writing is well organized & structured and contains no mechanical problems (e.g. spelling, grammar, punctuation). References are included where appropriate and are in correct format.	
Methods (4 pts)	Gives enough details to allow for replication of procedure. "Sign post" words are used appropriately. The source of the protocol used for the study is provided with an appropriate reference.	
	The writing is well organized & structured and contains no mechanical problems. Written in paragraph form.	
Results (4 pts)	Provides a summary of the findings in text format. Presents findings visually (tables, figures) as appropriate. Successfully integrates text and visual representations.	
	The writing is well organized & structured and contains no mechanical problems & references are cited appropriately. Format of tables & figures is correct.	
Discussion (5 pts)	Opens with effective statement of support/ rejection of hypothesis. Backs up statement with references to appropriate findings (results). Provides sufficient and logical explanation for the statement. Sufficiently addresses other issues pertinent to lab (possible sources of error, future studies)	
	The writing is well organized & structured and contains no mechanical problems. References are included where appropriate and are in correct format.	
Literature Cited (2 pts)	Two peer-reviewed papers will be referenced and cited correctly and fully in the CSE name	

Lab Notebook Guidelines

General:

Your lab notebook should be a ½ wide 3-ring binder notebook that ONLY includes materials from your 1107 lab (do not keep materials from other courses in this notebook).

Try to keep your lab notebook legible

You should be thorough in keeping your notes; the entire purpose for a lab notebook is to keep a record of your activities and results so that either you or others reading your lab notebook will be able to replicate your activities. In other words, details are important! If you add 10mL of 0.1 M HCl to 200mL of water, don't write down "added HCl to water", because it would be unclear what concentration the HCl was, how much you added, and how much water you added it to. Your notes should be a full and complete record of your activities in lab.

We are also going to use your lab notebook for exercises in metacognitive learning. Studies have shown that students have improved understanding and memory when they think explicitly about the learning process. Your lab notebook will be one way in which you formally THINK about how you are learning from lab.

You will often be working in groups, but each individual's lab notebook should be a stand-alone record of the experiment.

Number every page

Every entry begins with the date in MM/DD/YYYY format and the time of day

Keep a table of contents in the front of your lab notebook that is updated every week

If you make a mistake, just cross it out; don't remove pages

Begin each lab on a new sheet of paper

Lab Notebook Format: Follow this format; you will be graded on having an entry for each numbered item in the following guidelines. Some labs may require additional information and sections, but all labs will have the following items unless you are told otherwise. **In bold are things you should fill out before coming to class, the rest you should fill out during lab.**

<u>Introduction:</u>

1. **Date and title, which will be the name of the exercise from your lab manual**

Results:

1. Record the results of your experiment, including every pertinent detail. Always transfer your group's results to your lab notebook. This includes recreating any tables or graphs from your lab manual in your lab notebook.

Discussion/Conclusions:

1. What was the one most significant thing you learned in the laboratory? Was this what you expected to learn (see Purpose/Objectives #4)? What else did you learn?
2. Explain how the results support or do not support your hypothesis. If you do not understand your results, explain why you cannot explain the results, and what you need to know to be able to explain them. Be specific.
3.

   b. Methods
   c. Results
   d. Discussion
8. Exercise 8
   a. Introduction-purpose-expectations
   b.