The laboratory portion of Biology 12 is a series of experiments, or investigations, designed to introduce you to the scientific process. Unlike other laboratories you may have had, in Biology 12 there is no “right” answer or result. The purpose of the investigations is to explore and test hypotheses you develop. You will be expected to develop hypotheses, test them, and interpret your results in much the same way an active research scientist would. You will be evaluated on your participation in the process, as well as on the clarity of your results and presentation thereof. Each investigation will take more than one week, and for some you will be expected to come to the lab to record ongoing results outside of your regularly scheduled lab time. The quality of your final results is critically dependent on your care and diligence in collecting data during the experiment!

Attendance in the laboratory is mandatory. Labs cannot be made up. If you know you must miss a lab, get in touch with the Laboratory Coordinator, Janet Mitchell, ahead of time to schedule an alternate lab. There are no labs on President’s Day, Monday, February 19th. Students in the Monday lab must sign up for an alternate lab they can attend during that week. Sign-up sheets will be posted on the wall.

Janet Mitchell  
Office: 007 MLS  
Telephone: 656-9976  
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Grading:  
2 Laboratory Question Sets - Labs 2 & 3 (15 points ea.) 30  
4 Written reports - Labs 1, 4, 5 & 6 (25 points ea.) 100  
Lab quizzes (10 points ea., lowest is dropped ) 50  
Oral presentation 30  
Participation, data collection, preparedness 40  

Total 250

ACADEMIC HONESTY

Academic honesty is expected of all students. Although the laboratory investigations will be done in groups and data will be shared, each student is expected to write his or her reports independently. Reports that are obvious “joint efforts” will receive a score of zero. If such “joint efforts” are turned in repeatedly, both students will receive a zero for the entire laboratory portion of the course.
PRESENTATIONS

Part of being a scientist is learning to present your investigations and results orally to colleagues and students. An oral presentation is required of all students in the course. Data from any of the labs carried out during the semester may be presented. Presenting your work orally is like writing a scientific report except that you need to be much more succinct. Your talk should have 4 parts: an introduction in which you briefly state the question or hypothesis you examined followed by a brief description of how you examined that question. Then present your major findings, and a summary in which you state your conclusions based on your results. Your presentation should include the use of visual aids (overheads and/or slides) and take no more than 10 minutes. There are three weeks (see schedule) allotted for presentations, which will be incorporated into that week’s laboratory. Sign up during the first week of class for a presentation date. There are pluses to doing your presentation early: 1) you get it out of the way before the onslaught of work at the end of the semester; and 2) the stakes will be raised at the end of the semester since by then students should know what makes a good vs. just an OK presentation (i.e., it will be harder to get an “A”!)

WRITTEN REPORTS

No scientific study is complete until the data are analyzed and presented in written form for publication. It is through written (and oral) dissemination of information that our scientific knowledge advances. You are expected to write 4 laboratory reports for this course. READ Chapter 3 in Pechenik’s “A short guide to writing about biology”. Follow her format for writing your laboratory reports. You should also read pages 26 - 51 on reading the scientific literature, note-taking and plagiarism. There is a lot of useful information in these few pages and you will be held responsible for this material. You will be expected to cite the work of others correctly, and you will be expected to include 4-6 references in your laboratory reports. References must come from the primary literature and cannot be out of text books or articles posted on the WWW. Reports must be typed. As stated above (under Academic Honesty), these reports are to be your own. Although you may share in the collection of data for a particular study and collaborate in analyzing the data, you may not share in the final write-up.