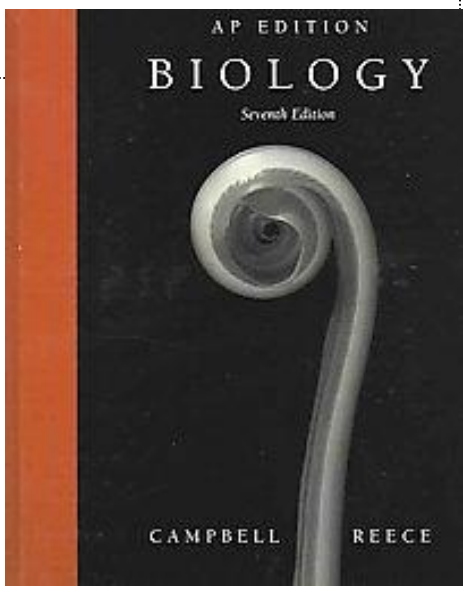
Mr. Girard's E.C.E. UConn Biology 1108 Class Syllabus



Instructor: Mr. John Girard
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Texts Used:
Biology, Seventh edition; (2005) ISBN: 0-8053-6777-2; Neil Campbell and Jane Reece.

Preparing for the Biology A.P. Exam with Biology, Seventh Edition; (2005) ISBN: 0-8053-7187-7; Campbell and Reece

INTRODUCTION: The University of Connecticut's Early College Experience in Biology at Plainville High School is a course designed for students that have a strong interest in, or desire to pursue a career in the sciences. The Biology 1108 course is designed to offer students topics that are covered in a Biology course at the university level. Students accepting the challenge of this course will be required to actively participate in six lecture periods and three laboratory meetings per 8-day cycle that are conducted during the 1st semester. Lab time accounts for 50% of all instructional time and lab assessments will account for 35% of your grade. This is a laboratory course in which students are expected to identify and use patterns in collected data to solve biological problems. In addition, students will apply biological knowledge and critical thinking to environmental and social concerns. Some labs will require your attendance after school to complete investigations begun during the school day and attendance is mandatory. No student is permitted to miss more than 20% of the lab activities and still receive UConn credit.

To succeed in Biology 1108, students must be highly motivated to learn. Reading requirements for the course are rigorous and require a daily commitment in order to stay caught up in the class. Exams generally cover multiple chapters in the text and occur every 4 weeks depending on the content being covered and the number of labs that are conducted during the unit. All laboratory activities suggested by the University of Connecticut, and other supplemental labs, are conducted to give you a fair representation of a university-level Biology course. Independent research and primary journal readings are also required in addition to the lab work. A course exit exam created by University of Connecticut Professors will be cumulative for the content from this semester. A final grade of 'C' or better is required to receive UConn credit.

THE GOAL: This course is designed to:

1) Present an in depth, College Level Study of the Biological Sciences and apply biology to real world applications.

2) Help students develop college level critical thinking skills, writing skills, and study habits

3) Develop a love of Biology and its complexity

SUPPLIES: PLEASE BRING THE FOLLOWING ITEMS EVERY DAY:

1. Your textbook: Biology, 7th Edition. Campbell and Reece.
2. Three ring binder for labs and loose-leaf paper.
3. Pen and pencil
4. Wit, intellect, and positive mental attitude

GRADING:

1. **Laboratory work and reports 35%**
2. **Exams 60%**
3. **Journal readings 5%**

STATEMENT OF ACADEMIC HONESTY: I will make a clear distinction between work that must be your own and work that is done in groups. Make sure you also make that distinction. Cheating and Plagiarism will have severe consequences. Copying or helping another person on a test will result in a ZERO (0) on the test for ALL involved. An assignment, such as journal readings or formal lab reports, copied from another student, the Internet, or any other source will result in a ZERO (0) on that assignment.

FORMAL AP BIOLOGY LAB REPORT RUBRIC

1. Abstract: (20 pts)

This provides a summary of your report. The abstracts will consist of a sentence or two of introduction which includes the objectives of your experiment, a description of the investigation to be conducted, methods, rationale for the hypothesis you have made, and background information which needs to be cited using MLA format.

2. Problem: (5 pts.)

This should be a concise description of what you are studying and ideally should be a question that is posed.

3. Hypothesis: (10 pts.)

Statement which ties together the independent and dependent variables in the experiment or investigation. The

hypothesis is what you think will happen during the investigation. It differs from a guess in that it is based upon prior knowledge or evidence. It should be supported by previously developed evidence and/or concepts. A null and alternate hypothesis will be included in your genetic research lab.
** Reminder: The hypothesis should be the statement that drives your laboratory investigation ... and represents your best prediction of the results based on prior experience with the problem.

4. Materials & Procedure: (25 points):

Include a description of materials and equipment used in the labs in the steps for performing the lab. Be specific but brief. Write this section in past tense, without pronouns, and in paragraph form. Diagram and label the setup of equipment for the lab. The procedure must include an identification of the independent and dependent variables and the control(s) in the experiment. ** Reminder: A well designed experiment should have one clearly defined independent variable and at least one control.

5. Data/Results: (10 points)

Create a data table as appropriate for all observations and measurements. Show the work for any required calculations as well as appropriate units. Include a graph of data as appropriate with appropriate titles, labels, and regression analysis where appropriate. DATA TABLES & GRAPHS SHOULD BE LABELED WITH EITHER FIGURE OR TABLE (e.g. Figure 1. The fecundity of *Drosophila melanogaster*) AND CONTAIN A SUBTITLE OR HEADING.

Do not hide or eliminate suspected faulty data but present it. Later, in your CONCLUSIONS, you may explain why you have decided not to use suspected errors in your analysis. Good scientists present the data they obtain even when it is suspected to be faulty. They explain why they feel they are in error in the discussion of their results later. This is why a true experiment has many trials and much peer review occurs before results are accepted by the scientific community at large.

Include error calculations as appropriate when directed by the instructor.
Data may be qualitative (observational without numbers) or quantitative (with numbers) or both. Often qualitative data may be used to support or explain discrepancies in quantitative data in your conclusion.

6. Conclusion/Discussion: (30 points)

Summarize the important procedures and result(s) of the lab. The conclusion should clearly tie the results of the experiment to the hypothesis and a discussion of why the hypothesis should be accepted or rejected must be completed in detail.

A good conclusion/discussion not merely restates the results or the procedure ... but it should tie any errors in the procedure to deviations from the expected results. Explain any uncertainties in the observations/measurements. Identify and explain how sources of error influence the lab results.(some sources of error could include equipment/instrument error, procedural setup error, human error, etc.)
Discuss how the lab could be modified to improve the results.

***Cite all literature used in the abstract using MLA format as appropriate. FAILURE TO PROVIDE PROPER CITATION WILL RESULT IN A ZERO ON THE LAB

Use the Curriculum map below to plan your chapter readings, labs, & journal reading

E.C.E. UConn Biology 1108 Spring Semester **Mr. Girard**

Month	Content	Reading	Lab
January	Macroevolution	Chap 22 pg 438-451	Population genetics
	Microevolution	Chap 23 pg 454-469	Great clade race
	Phylogeny & systematics	Chap 24 pg 472-486	
	Tree of life	Chap 25 pg 491-508	
	Fungi	Chap 26 pg 512-529	
	EXAM #1	Chap 31 pg 608-623	
February	Plant anatomy	Chap 29 pg 573-588	Transpiration – LAB WRITEUP
	Plant transport	Chap 30 pg 591-606	Flower dissection
	Plant growth & development	Chap 35 pg 710-734	Monocot vs eudicot
	Plant reproduction	Chap 36 pg 738-753	Photosynthesis
	Photosynthesis	Chap 37 pg 764-767	
	Plant evolution & phylogeny	Chap 38 pg 771-784	
		Chap 39 pg 788-813	
	EXAM #2	Chap 10 pg 181-198	
March	Chromosomes and cell division	Chap 12 pg 218-233	Genetics of fast plants
	Mendelian genetics	Chap 13 pg 238-249	Genetics of *Drosophila melanogaster*
		Chap 14 pg 251-270	Platyhelminthes regeneration
	EXAM #3		**Dissection: Invertebrates - porifera, mollusca, annelida, arthropoda, echinodermata
	Invertebrates	Chap 32 pg 626-636	
	Vertebrates	Chap 33 pg 638-668	**Dissection: Vertebrates – agnatha, chondrichthyes, osteichthyes, amphibia, reptilia, aves, mammalia
		Chap 34 pg 671-707	
			**Please note that DISSECTION IS COMPULSORY
April	Animal behavior	Chap 51 pg 1106-1133	Animal behavior
	Population ecology	Chap 52 pg 1136-1156	Water quality
	Community ecology	Chap 53 pg 1159-1180	Dissolved oxygen
	Ecosystems	Chap 54 pg 1184-1206	
	EXAM #4		