SYLLABUS
BIOL A205-A207 - Cell and Molecular Recitation and Laboratory
Fall 2003

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References: COOP = *The Cell: A Molecular Approach* – Cooper & Hausman, 3rd
CAM = *Biology* - Campbell and Reece 6th edition

Meeting Date	Recitation Lab (☻ = quiz)	Lab exercise/Recitation Topic	References
8/25	Recitation 1	Introduction to course; *Drosophila* life cycle, phenotypes, and genotypes; brief summary of this week's lab	CAM: Ch. 14, Appendix 1
8/26-8/29	Lab 1	Liquid handling exercise; **Work Sheet due at end of lab**.	
9/1	Labor Day holiday - No Recitation		
9/2-9/5	Lab 2a - quiz 1	Genetic Analysis in *Drosophila* I - Handling of flies and identification of parental phenotypes	
9/8	Recitation 2 ☻	*Drosophila* F_1 and F_2 analyses, autosomal and sex-linked inheritance, map distance and chi-square testing	CAM: Ch.14-15 COOP: 90-93
9/9-9/12	Lab 2b - quiz 2	Genetic Analysis in *Drosophila* II - Identification of F_1 phenotypes, preparation of F_1 crosses, discussion of F_1 and F_2 results	
9/15	Recitation 3 ☻	F_2 analysis and linkage in *Drosophila*; Background on this week's microscopy lab	CAM: Ch. 15; 108-111 COOP: 90-93
9/16-9/19	Lab 3 – quiz 3	Cells and the light microscope - phase contrast and bright-field microscopy; remove F_1 flies from crosses	
9/22	Recitation 4	Introduction to DNA fingerprinting; Explanation of this week's lab procedure	CAM: 382-384 COOP: 115-116
9/23-9/26	Lab 4a - quiz 4	DNA fingerprinting lab I - DNA extraction and amplification; **Data Sheets from Lab 3 due**(*Drosophila* lab report due in two weeks)	
9/29	Recitation 5 ☻	Continued remarks on DNA fingerprinting , agarose electrophoresis and analysis; brief summary of this week's lab;	CAM: 382-384 COOP: 115-116
9/30-10/3	Lab 4b - quiz 5	DNA fingerprinting lab II - gel electrophoresis and analysis; *Drosophila* lab follow-up - collect and score F_2 phenotypes over next 7 days	
10/6	Recitation 6 ☻	Introduction to mammalian red blood	CAM: 138-151,

		cell labs; discussion on diffusion, osmosis, membranes and red blood cells; explanation of this week's lab	882 COOP: 80-85; 483-496; 622-624
10/7-10/10	Lab 5a - quiz 6	Investigations with mammalian red blood cells I - blood cell microscopy and blood fractionation**; *Drosophila* lab report due**	
10/13	Fall Break - No Recitation		
10/14-10/17	Fall Break - No Lab		
10/20	Recitation 7	Remarks on DNA fingerprinting lab report; discussion of this week's lab	
10/21-10/24	Lab 5b - quiz 7	Investigations with mammalian red blood cells II - hemoglobin spectrum and hemolysis	
10/27	Recitation 8	Discussion on membrane permeability; explanation of this week's lab	CAM: 138-151 COOP: 80-85; 483-496
10/28-10/31	Lab 5c - quiz 8	Investigations with mammalian red blood cells III - membrane permeability; **DNA fingerprinting lab report due**	
11/3	Recitation 9 ☻	Discuss and address questions regarding blood cell lab report; membrane permeability follow-up - discussion of permeability results; explanation of this week's lab	
11/4-11/7	Lab 6a - quiz 9	Chloroplast investigations I - Isolation of spinach plastids	
11/10	Recitation 10	Introduction to the chloroplast labs; Discussion of photosynthetic pigments and paper chromatography; explanation of this week's lab	CAM: Ch. 10 COOP: 415-426
11/11-11/14	Lab 6b – quiz 10	Chloroplast investigations II - paper chromatography of pigments and light absorption; **Blood cell lab report due**	
11/17	Recitation 11 ☻	Continued remarks regarding chloroplasts labs - e- transport and photoreduction	CAM: Ch. 10 COOP: 415-426
11/18-11/21	Lab 6c – quiz 11	Chloroplast investigations III - e^- transport and photoreduction	
11/24	Recitation 12	Discussion of the light reaction, photoreduction and e^- transport results and lab report	CAM: Ch. 10 COOP: 415-426
11/25-11/28	Thanksgiving - No Lab		

12/1	Recitation 13	Searching the scientific literature - in-class assignment; **Work Sheet due at end of recitation**	handouts
12/2-12/5	Lab 7	What makes the fly larva glow? **Group work sheets completed during lab**	handouts
12/8		**Chloroplast lab report due in lab instructor's office**	

"How do I pass this course?" and other FAQs

1. **"Do I have to attend all the recitations and labs?"** You are required to register for and attend one of the Monday afternoon recitations (BIOL A205) and one lab session (BIOL A207) **each week**. Also, expect questions on your weekly lab quiz on recitation material as well as the occasional Blackboard recitation quiz.

2. **"What is recitation for?"** Recitation is, in part, a pre-lab session that will discuss background information and touch on the lab procedure for that week. Also, experimental results of completed labs and expectations for lab reports will be discussed. The intent is to prepare you for the weekly lab so that you can walk in and begin the exercise for that week, and guide you in analyzing lab results from the previous week. Don't expect a replay of the recitation from your lab instructor.

3. **"May I attend an alternate recitation or lab session different than the one I am registered?"** Only with instructors' approval and only in extenuating circumstances.

4. **"What are the required books for this class?"** Check with your individual instructor. You will need a CMB lab manual (handed out at recitation) and a lab notebook (purchased at your favorite office supply, drug store or book store; check with your instructor on notebook design preference). You are expected to have held on to your text from last year BIOL A106/A108, *Biology* (6th edition) - N.A. Campbell et al., which you will need as a reference, and your text from BIOL A206, *The Cell: A Molecular Approach* (3rd edition) – G.M. Cooper and R.E. Hausman.

5. **"How will we use the lab notebook?"** Check with your lab instructor. They may be collected and graded. They are primarily for your benefit in recording lab notes, procedure revisions, ALL observations, experimental data, and helping you to generate a quality lab report.

6. **"What books do we need to bring to recitation? To lab?"** Bring your CMB lab manual to recitation. I will try to have the recitation notes available on Blackboard before recitation. These will not be complete requiring you to take additional notes during recitation. Of course, bring your lab manual to lab. You and your lab partner can each bring one of the two reference texts to lab. Also, bring a lab notebook as described by your instructor.

7. **"Can I use parts from someone else's lab report?"** No, that's called plagiarism, a form of cheating. We will address all cheating in the manner explained in the Undergraduate Bulletin under "Integrity of Scholarship and Grades," http://www.loyno.edu/undergraduate.bulletin/academicregs.html. You will be allowed to share raw data with your lab partner, but not anyone else in lab (unless authorized by

instructor). Everything else is independent. If you have any questions of what constitutes plagiarism, check with your lab instructor.

8. **"How is the grade for Recitation (BIOL A205) determined?"** The grade for Recitation, will be the same grade you receive for Laboratory (BIOL A207) and calculated as indicated below.

9. **"What will our grade in this course (BIOL A205 & A207) be based on?** Your grade will be based mostly on your lab reports. The quizzes, work sheets, and data sheets will fill out the rest of your lab points. The point distribution will be as follows:

Tentative breakdown:	
Lab reports (4 @ 100)	400 pts
Lab quizzes (10 @ 10)	100 pts
Work Sheets (3 @ 20)	60 pts
Data sheets	50 pts
Recitation quizzes	50 pts
Total	660 pts

10. **"What's the cut-off for an A, B, C, etc.?** The percentage associated with the letter grades are as follows: **A** (90-100), **B** (80-89), **C** (70-79), **D** (60-69), **F** (< 60)

11. **"Will there be a curve?"** No.

12. **"Will there be extra credit?"** No, but check with you instructor about attending departmental research seminars.