Principles of Cell Biology
Syllabus: Spring 2001

Course:	Biology 212	Instructor:	Ms. Polacek
Lecture:	MW 2:00 – 3:15 p.m.	e-mail:	kpolacek@csub.edu
	DDH 146H	Office:	Science 213
Lab:	MW 3:30 – 5:55 p.m.	Office hours:	Tuesday 1 – 2 p.m.
	Science 221		Wednesday 8 – 9 am
Texts:	Life, The Science of Biology		and by appointment
	By Purves, Orians, and Heller (5th Ed.)		

Philosophy of this course: The goal of this course is your comprehensive understanding of cellular structure and function. This course is the foundation on which your future major courses are based and therefore your mastery of its material is essential. To that end, you will be asked to take an *active* role in your learning. You will often be challenged to solve a problem or answer a question without the help of step-by-step guidelines. The purpose of this approach is to make *learning a process* and not a list of information you must memorize to repeat later. You will engage in work as a team member both in lecture and in lab, because communication is one of the best ways to increase your learning. *Be willing to be both a teacher to and learner from your colleagues.* They are counting on you.

Philosophy of the instructor: My role is as a facilitator to your learning. I create scenarios in which you explore information and learn individually. I do not "give" information nor do I know all the answers to your questions. Together will explore the beauty of cells. I do not give grades; students earn them.

Absences: Attendance in lecture is necessary to fulfill your role of active learner and to achieve mastery of the material. Absences must be reported prior to class. Lab investigations cannot be made up. Exams cannot be made up. Circumstances can be arranged to take exams early only is the absence is reported within 10 days of absence. All absences should be reported to kpolacek@csub.edu or the biology secretary at: 664-3089.

Assessment: Your learning will be assessed through exams, written critiques of primary literature, research reports, your critiques on your colleagues reports, quizzes, and a summative notebook. A tentative assessment calendar and point value is as follows:

Quizzes (10)	**Prior to the start of class** as indicated on syllabus	50	
Research Report - 1	18-Apr	→	Bring 3 copies of your report for peer review.
Research Report - 2	25-Apr	50	
Exam 1	30-Apr	100	
Exam 2	23-May	100	
Literature presentation	4-Jun & 6-Jun	30	
Notebook	6-Jun	50	
Final exam	13-Jun	150	

Quizzes: For your benefit, you must read your text prior to coming to class. Before coming to class, read the chapter and take the online end-of-chapter-quiz (www.thelifewire.com). If the quiz is taken anytime after the class has convened, you will benefit from the review, but not the points.

Research report: You will begin your research experiment the first day of class. Be ready to submit your report on 18 Apr. Bring three copies of your report for peer review.

Exams: Exams will cover material from lecture and lab and will consist of multiple choice, short answer, fill-in, and essay questions.

Literature presentation: After much practice reviewing primary literature, you will select a recent research article and present it to the class. In your presentation (which must include several visual aids) you will place this research in context, explain the methods so that we might repeat them, show and explain the results, and discuss the author's findings.

Final exam: comprehensive.

Notebook: You will keep a record of your daily activities in a journal. This may be a bound journal into which you write directly, or a loose-leaf journal which you have professionally bound prior to submission. Your daily journal entries will be easily found by the reader using your table of contents. Each daily entry includes the following sections titled as they are underlined below:

Contemporaneous notes: notes collected during the lab; includes background, methods, results, personal notes, references, questions, etc.

Summary: At the end of each day you will summarize the following:

Title: use title from syllabus

Purpose or objective: brief but thorough

Results: display collected results in table and/or graph form, or other forms as necessary. This means you will rewrite your results in a presentable and properly labeled fashion.

Discussion: thoroughly discuss the meaning of your results. What general trends exist in your data? What possible explanations best explain your data? What are the biological implications of your results?

Grading (percent scale)

93 – 100 = A	83 – 86 = B	73 – 76 = C	63 – 66 = D
92 – 90 = A-	80 – 82 = B-	70 – 72 = C-	60 – 62 = D-
87 – 89 = B+	77 – 79 = C+	67 – 69 = D+	< 60 = F

Academic dishonesty occurs whenever you represent another person's ideas or written work as your own. Cheating and plagiarism will not be tolerated. Any event of academic dishonesty will result in a failing grade. University policies regarding academic dishonesty as published in the CSUB catalog will be strictly followed.

Tentative Course Outline

Bio 212 Spring 2001

Week	Date		Topic
1	Apr 2	Lect.	Water, pH, functional groups
		Lab	Aerobic respiration
2	Apr 9	Lect.	**On-line Quiz: End-of-Chapter 3**
			Macromolecules, enzymes
		Lab	Aerobic respiration
	Apr 11	Lect.	Prokaryotes and eukaroytes
		Lab	Data analysis
3	Apr 16	Lect.	**On-line Quiz: End-of-Chapter 4**
			Organelles
		Lab	Primary literature analysis
	Apr 18	Lect.	**On-line Quiz: End-of-Chapter 5**
			3 copies of research report due
			Cell membrane: transport and communication
		Lab	Cellular membrane
4	Apr 23	Lect.	**On-line Quiz: End-of-Chapter 6**
			Cellular respiration: fermentation and aerobic respiration
		Lab	Isolation of mitochondria
	Apr 25	Lect.	**Final research report due**
			Aerobic respiration
		Lab	Assaying mitochondrial activity
5	Apr 30	Lect.	**On-line Quiz: End-of-Chapter 7**
			Cell structure and function
		Lab	**Exam**
	May 2	Lect.	Photosynthesis
		Lab	Plant pigment analysis
6	May 7	Lect.	**On-line Quiz: End-of-Chapter 9**
			Cell cycle, mitosis, meiosis
		Lab	Chromosome squash
	May 9	Lect.	**On-line Quiz: End-of-Chapter 11**
			DNA replication
		Lab	Mendelian genetics

Week	Date		Topic
7	May 14	Lect	**On-line Quiz: End-of-Chapter 10**
			Transcription
		Lab	Primary literature analysis
	May 16	Lect.	Translation
		Lab	Environmental effect on enzymes
8	May 21	Lect.	Translation and protein synthesis
		Lab	Protozoa
	May 23	Lect.	**On-line Quiz: End-of-Chapter 12**
			Cell structure and function
		Lab	**Exam**
9	May 29	Lect.	Literature search
		Lab	Literature search
	May 30	Lect.	Cancer
		Lab	Literature summary and critique writing
10	Jun 4	Lect.	**On-line Quiz: End-of-Chapter 13**
			Viral and prokaryotic genetics
		Lab	**Literature presentations**
	Jun 6	Lect.	Recombinant DNA
		Lab	**Literature presentations**
			Notebooks due at end of period
11	Jun 11	Lect.	Genetics and evolution
		Lab	Student review
	Jun 13	Lect.	**Final** 5:00 – 7:30 p.m.