

Cell & Molecular Biology

BIOL. A206-001, -002

Dr. Patricia Dorn

Fall 2006

Office: Monroe 307

MWF 10:30-11:20 or 11:30-12:20

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Classroom: MO 267

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(I answer emails M, W & F)

Office Hours: T 4:00-5:30 p.m.
F 2-3:30 a.m.

Text: Essential Cell Biology, second ed. B. Alberts et al. (2004)

Optional Text: Biology, Campbell & Reece (2005)

Prerequisites: Cells & Heredity (Biol. A106) and Biology of Organisms (Biol. A 108-A110)

Corequisites: CMB lab and recitation

It is important that you regularly check the course Blackboard site since this is where any changes to the schedule, online quizzes and any course announcements will be posted.

Biweekly quizzes will be online, available from 3 p.m. on Friday until 3 p.m. on Saturday.

TENTATIVE LECTURE AND EXAM SCHEDULE

<u>Date</u> Q = quiz	<u>Topic</u>	<u>Reading & Questions</u> Chapter:pages (homework)
8/28	Introduction / Blackboard / PRS	Review <u>Biology</u> by Campbell, et al. Ch. 2-6 Also <u>Essential Cell Biology</u> Ch. 2 & 3:83-94, 106-112
8/30	Pre-test	“
9/1	Review	“
9/4	LABOR DAY HOLIDAY, no class	
9/6	Review	“
9/8 - 9/11	Review	Online Quiz on review material (9/15 between 3

		p.m. and 3 p.m. 9/16)
9/13 9/15 9/18	Cell Structure & Function	Ch. 1: 1-5; 11-27; 35-36 (1-1, 1-5, 1-9, 1-10, 1-11, 1-12, 1-13, 1-18, 1-21)
9/20	Tools of Cell Biology & Model Organisms	Ch. 1: 6-11, 27-36 (1-7, 1-8)
9/22 9/25	Protein Structure and Function	Ch. 4 (4-1, 4-5, 4-7, 4-8, 4-10 [A, B, E-I], 4-12, 4-14, 4-15, 4-17, 4-19)
9/27 9/29 Q1	DNA and Chromosomes and Genome sequences	Ch. 5 (5-1, 5-3, 5-4, 5-7, 5-9, 5-10, 5-11, 5-13)
10/2 10/4	DNA replication	Ch. 6: 195-208 (6-2, 6-3, 6-8 [A-C], 6-9, 6-10, 6-13, 6-17)
10/6	Exam 1	
10/9	Genetics workshop – no class	
10/11 10/13 Q2	From DNA to protein: how cells read the genome; RNA processing	Ch. 7 (7-1, 7-2, 7-3, 7-4, 7-5, 7-7, 7-9, 7-11, 7-12, 7-14, 7-17, 7-18)
10/16	Fall break, no class	
10/18	From DNA to protein: how cells read the genome; RNA processing , cont.	
10/20 10/23	Control of gene expression	Ch. 8 (8-2, 8-4, 8-5, 8-8, 8-10, 8-11, 8-15)
10/25	How genes and genomes evolve	Ch. 9 (9-1, 9-2, 9-5, 9-7, 9-8, 9-9, 9-12, 9-13, 9-15, 9-16)
10/27 Q3 , 10/30	Manipulating genes and cells	Ch. 10 (10-1, 10-2, 10-3, 10-5, 10-6, 10-8, 10-10, 10-14, 10-18, 10-19)
10/30	Exam 2	

11/1	Manipulating genes and cells, cont.	
11/3, 11/6	Membrane Structure	Ch. 11 (11-1, 11-2, 11-3, 11-4, 11-5, 11-7, 11-9, 11-11, 11-14, 11-19, 11-20)
11/8, 11/10 Q4	Membrane Transport	Ch. 12 (12-1, 12-3, 12-6, 12-7, 12-8, 12-9, 12-10, 12-11)
11/13 11/15, 11/17	Intracellular compartments and transport	Ch. 15 (15-1, 15-2, 15-4, 15-6, 15-9, 15-16, 15-19, 15-22)
11/20		
11/22- 11/24	Thanksgiving Holidays, no class	
11/27	Cell communication	Ch. 16: 533-552 (16-1, 16-3, 16-5, 16-6, 16-11[A-C], 16-13, 16-15)
11/29	Exam 3	
12/1 Q5 , 12/4	The cytoskeleton and cell movement	Ch. 17 (17-1, 17-3, 17-5, 17-7, 17-8, 17-9, 17-13, 17-17, 17-21, 17-23)
12/6	The Cell cycle	Ch. 18:611-616, 625-626 (18-1, 18-2, 18-3, 18-16)
12/8	Wrap-Up	

Final exams: Please check online schedule on Loyola's Web site

YOU ARE RESPONSIBLE FOR YOUR OWN LEARNING. To do well, you will need to read AND STUDY the book before lecture. Lecture should never be your first exposure to the material. Quizzes will include material covered in the next lecture to encourage you to come prepared. The homework problems are designed to help you learn the material and are best completed after reading, study and the lecture. Questions similar to the homework may appear on quizzes and exams and discussed in class (hint, hint!). We can't possibly cover everything you need to know in lecture so make good use of this expensive book and accompanying resources that you have purchased. If you are having difficulty or just want clarification, please come see me during office hours. I am

happy to work with students, especially if they come early enough in the semester, homework in hand (at least attempted!) when they can still make effective changes.

COURSE OBJECTIVES

1. Students will become fascinated with the amazing world of the cell.
2. Students will understand key concepts in cellular and molecular biology.
2. Students will learn to work together, to support, teach and learn from each other.
3. Students will learn more about the process of scientific investigation.
4. Students will improve their skills in oral and written communication.

GRADING

Review Quiz (online)	50 pts.
+Quizzes (10 pts. ea. X 4)	40 pts.
In class activities	35 pts.
Exams (100 pts.ea. X 3)	300 pts.
Comprehensive Final Exam	150 pts.
Seminar reviews (5 pts. each, 2 total)	10 pts.

Total Points Possible	585 pts.

Scale: A: 100-90%, B: 89-80%, C: 79-70%, D: 69-55%, F <55%

+Lowest quiz of the regular quizzes dropped to accommodate computer glitches, deaths in the family, etc. Please take quizzes on campus to avoid disconnects and have no more than one of the aforementioned crises this semester.

You may earn points by attending a Biology dept. seminar here or at one of the local universities. For points, you will need to post your review to the discussion board on Blackboard by the Friday following the seminar. To earn credit the review must include the following: the name of the speaker, the title of the seminar, the basic question(s) the investigator was addressing, what approach (experiments) was used to answer the question(s), what were the conclusions? Did the data support the conclusions? What future studies did the results suggest? (Don't forget this last point, many students do and then miss out on credit). The review should be at least 400 words. Please run a word count on your word processing software to ensure adequate length. Only adequate reviews with all of this information posted by the Friday following the seminar will be counted for credit.

COURSE POLICIES

PLAGIARISM & CHEATING (Modified from the Undergraduate Bulletin)

All academic work will be done by the student to whom it is assigned without unauthorized data or help of any kind. A student who supplies another with such data or help is considered deserving of the same sanctions as the recipient. Specifically, cheating, plagiarism and misrepresentation are prohibited. Plagiarism is defined by Alexander Lindley as "the false assumption of authorship: the wrongful act of taking the product of another person's mind, and presenting it as one's own." (Plagiarism and Originality). "Plagiarism may take the form of repeating another's sentences as your own, adopting a particularly apt phrase as your own, paraphrasing someone else's argument as your own, or even presenting someone else's line of thinking in the development of a thesis as though it were your own." (MLA Handbook, 1985).

A student who is found to have cheated on any examination will be given a failing grade for that assignment and the incident reported to the Biology chair and the dean. A second infraction will result in a failing grade in the course.

EXAMS:

Please check the exam schedule including final exams as there are no make-up exams and exams are given only when scheduled. Missed exams will receive an automatic "0" unless I have been contacted BEFORE the exam AND have determined that the reason for your absence warrants pro-rating that exam. All work must be turned in by the last class meeting to receive credit.

CLASS ATTENDANCE:

Attendance will not be taken, however, since a large part of this course depends on everyone's active participation, you will miss much of the learning experience (and the fun!) if you miss class. In addition, in class activities are a part of the points you can earn.

STUDENTS WITH DISABILITIES:

A student with a disability that qualifies for accommodations should contact Sarah Mead Smith, Director of Disability Services at 865-2990 (Academic Resource Center, Room 405, Monroe Hall). A student wishing to receive test accommodations (e.g., extended test time) should provide the instructor with an official Accommodation Form from Disability Services in advance of the scheduled test date.