

Cell and Molecular Biology Laboratory: Bio475

Cell and Molecular Biology
Biology 475-01
Life Science 201
Fall 2006 Thursday 2:00-5:00pm

Dr. Mark J. Ottenbreit
Phone: (313) 993-1159 (Work)

Office 223 Life Science
e-mail: ottenbmj@udmercy.edu

Course web site: <http://ottenbmj.faculty.udmercy.edu/courses/bio475/>

Course Description: Exercises demonstrating principles of cell and molecular biology, genetics, and the biochemistry of proteins, nucleic acids, carbohydrates and lipids.

Prerequisites: Organic Chemistry (CHM 227, 228, 229) and BIO 120, 121, 122, and 123.

COURSE OUTLINE

<u>Week</u>	<u>Topics</u>	<u>Chapter</u>
1	Cytochemistry: Cellular Carbohydrates	2
2	Cell Fractionation	10
3	Chromatography of photosynthetic pigments	12
4 & 5	Spectrophotometry	
	a. Analysis of DNA and RNA	5
	b. Hill Reaction in Isolated Chloroplasts	13
6	Electrophoresis	
	a. Isoenzymes	8
	b. Hemoglobin; Sickle cell	6
	c. Serum Proteins	7
7	Test I	
8	Column Chromatography: gel filtration and ion exchange	Handout
9	Genetic Engineering: Lambda Phage Mapping	17
10	Polymerase Chain Reaction: DNA Fingerprinting	Handout
11	SDS-PAGE Electrophoresis: Proteins MW	Handout
12	Cytogenetics	
	a. Human Chromosome Observations	Handout
13	Presentation of Scientific Topic	

Text: Laboratory Investigations in Cell and Molecular Biology, Allyn Bregman. John Wiley and Sons, Fourth Edition, 2002.

Tests: There will be two tests in the course. Each will cover the experiments listed prior to it. The final is not cumulative. **Date of final examination: Friday December 15, 2006 11:00-12:50 pm**

Lab Note Book: Each student will be required to maintain a laboratory note book. The structure and content will be discussed during the first laboratory session.

Scientific Topic presentation: Each student will give a 15 minute presentation using Power Point on a topic assigned by the instructor.

Attendance Policy: Although not officially a part of the grade, attendance will be taken regularly. I have found a relationship between students' grades in this class and their attendance. **COME TO CLASS!**

Grading: Your grade will be determined by your score on the two examinations (45% each) and the grade on your Scientific Topic Presentation (10%). Grades will be established on class average adjusted to 75%. The adjustment will be applied only if the class average is below 75%.

Grading Scale:	93 - 100	A	78 - 79	C+
	90 - 92	A-	73 - 77	C
	88 - 89	B+	70 - 72	C-
	83 - 87	B	60 - 69	D
	80 - 82	B-	< 60	F

Important Dates - Fall 2006-2007

March 13	Advising Begins For Term I Fall 2006-2007
March 20	Registration Begins For Term I Fall 2006-2007
July 24	Account Statements Mailed to All Students Registered By July 24
August 22	Fall Tuition Payment Due - Last day for mail-in payments
August 23 - September 1	In-person Registration (Payment Required)
September 1	Registration Ends* (Web closes at 5:00 p.m.)
September 1	Last Day to Make Payment For Term I Fall 2006-2007 Without a Late Fee Assessment
September 1	Drops for Non-Payment at Close of Business
September 2 - September 4	Labor Day Holiday (UNIVERSITY CLOSED)
September 5	CLASSES BEGIN*
September 8	Registration Ends For Weekend College Classes
September 8	Last Day to Declare Audit or Pass/Fail Option
September 8 - 9	Weekend College Classes Begin (11 Week)
September 12	Last Day to Add a Class**
September 12	Last Day For 100% Refund *(NON-WEEKEND)
September 13 - 19	75% Refund Period*
September 20 - 26	50% Refund Period*
September 27 - October 3	25% Refund Period*
September 29	Last Day to Drop a Course Without a "W"*
September 29	Deadline For December 2006 Graduation Applications
October 6	Deadline For "I" Grades From Term III Summer 2006-2007
October 24	Mid-term Grades Due From Faculty
October 30	Advising For Term II Winter and Summer 2006-2007 Begins
November 6	Registration For Term II Winter and Summer 2006-2007 Begins

November 17 - 18	Weekend College Final Exams (11 Week)
November 20	Last Day to Withdraw From Class*
November 23 - 26	Thanksgiving Recess (UNIVERSITY CLOSED)
December 1	Weekend College Intensive Courses Begin
December 11 - 16	Final Exam Week*
December 16	Official End of Term I Fall 2006-2007
December 18	Grades Due For Term I Fall 2006-2007