

Biological Chemistry I

CHEMISTRY/BIOLOGY 3510

Fall Semester 2005

- INSTRUCTOR: Professor Charles B. Grissom
Office: 1128 HEB Telephone: 581-4153
e-mail: grissomc@chemistry.utah.edu
- ADMINISTRATIVE ASSISTANT: Ms. Tricia Tucker
Office: 2170 HEB Telephone 581-4383
- LECTURES: 10:45 – 11:35 am MWF 2008 HEB
- TEXT: Lehninger PRINCIPLES OF BIOCHEMISTRY, 4th Edition, by David L. Nelson & Michael Cox
The Absolute Ultimate Guide to Lehninger PRINCIPLES OF BIOCHEMISTRY, 4th Edition.
Study Guide and Solutions Manual, by Marcy Osgood & Karen Ocorr
- OFFICE HOURS: Office hours for Professor Grissom are Monday and Wednesday, 1:30-2:30 pm in 1128 HEB or by appointment.
- TEACHING ASSISTANTS: There are two Teaching Assistants for this class:
Ms. Samantha Smith Office Hours: by appointment in 1316 HEB
Telephone: 1-4175
e-mail: ssmith@chem.utah.edu
Mr. Randy Adachi Office Hours: by appointment in 1316 HEB
Telephone: 1-4175
e-mail: adachi@chem.utah.edu
- DISCUSSION SESSIONS: Five discussion sessions with the Teaching Assistants are scheduled for each week to answer questions and to provide additional discussion of the material covered in class. Attendance at these help sessions is not required. Ms. Smith and Mr. Adachi will be available for individual assistance.
- | <u>Day</u> | <u>Time</u> | <u>Room</u> |
|------------|-----------------|-------------|
| Tuesday | 9:40 – 10:30 am | 114 BEH S |
| Wednesday | 6:00 – 6:50 pm | 2006 HEB |
| Thursday | 7:30 – 8:20 am | 2006 HEB |
| Friday | 3:05 – 3:55 pm | 2006 HEB |
| Tuesday | 12:55 – 1:45 pm | 350 AEB |
- EXAMINATIONS: The class has three (3) midterms and one (1) final exam, which will be given in 2008 HEB:
- Midterm I: Friday, September 23, 2005: 10:45 – 11:35 am
Midterm II: Wednesday, October 19, 2005: 10:45 – 11:35 am
Midterm III: Monday, November 21, 2005: 10:45 – 11:35 am
Final Exam: Tuesday, December 13, 2005: 10:30 am – 12:30 pm

Dr. Grissom will only entertain questions of “Do we need to know this for the test?,” “What is on the exam?,” or “How many problems are there?” in class.

GRADES:	Midterm I	100 points
	Midterm II	100 points
	Midterm III	100 points
	Homework Assignment	20 points
	Final Exam	200 points (75 points new; 125 points comprehensive)
	Total	520 points

WITHDRAWALS: Students may drop (delete) this class with no tuition penalty or permission until **Friday, September 2, 2005** (the class will not appear on the students transcript). **Friday, October 21, 2005** is the final day students can withdraw from this course (a “W” will appear on the students transcript and the student will be responsible for paying tuition for the class). After October 21, 2005, students must file a petition with the Dean's office to withdraw from the course (The University's policy states that withdrawal will only be granted for “non-academic reasons beyond the student's control,” i.e., “I want to avoid a bad grade” does not qualify).

INCOMPLETES: The official University policy regarding incomplete course work and assignment of the grade “I” will be followed: “The grade ‘I’ may be given for work not completed because of circumstances beyond the student's control, providing the student is passing the course and needs to complete 20% or less of the work required for the course.” An UNEXCUSED absence at an exam cannot be used as a reason to get an “I” grade.

EQUAL for OPPORTUNITY: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

ACCOMODATIONS POLICY: Students should review the syllabus carefully to see if the topics covered in this course conflict

with your sincerely-held core beliefs. If you have a concern, please discuss it with the instructor at your earliest convenience (typically before the end of the first week of class).

AUDITING: To receive an official audit, you must sign up as an “audit” and you must attend all lectures and take the exams. The exams will be graded and returned to you.

SNOW CLOSURE & EMERGENCIES: Dr. Grissom will be available by e-mail in the event of any snow closure. In the event of a personal emergency at the time of an exam you must call Professor Grissom at 581-4153.

SUPPORTING INFORMATION: Supporting information will be located on the World Wide Web. The URL for this material will be announced in class. This material can be accessed with any web browser (i.e., Netscape or Explorer).

TUTORING: Tutoring is available through the University of Utah Tutoring Center in the Student Services Building, Room 330. Students are given a list of tutors to contact and schedule a day, evening, or weekend appointment. Low-income students may qualify for free tutoring. For more information call 581-5153 or visit www.saff.utah.edu/Tutoring/

- RESERVE MATERIAL: Printed copies of exams from Autumn 2001, 2003, and 2004 are available at the Marriott library reserve desk. Copies of these exams can also be accessed through electronic reserve. <http://ereserve.lib.utah.edu/webpac-1.2-bin/DoReserve?coursernum=2764&instructor=grissom>
- TEXTBOOK WEBSITE: The textbook has its own web site with helpful study guides and additional exercises. You can register for access at the following URL: <http://bcs.whfreeman.com/lehninger/>
- WEBCT: The PowerPoint files for all lectures will be posted on WebCT. Other interesting links will also be posted on the WebCT site for the class. The URL is: <http://webct.utah.edu>

Lecture	Day	Date	Lecturer	Topic	Chapter
1	W	AUG 24	Grissom	Water, Buffers	1, 2
2	F	AUG 26	Grissom	Molecular forces, Amino acids	2, 3
3	M	AUG 29	Grissom	Amino Acids: properties and chemistry	3
4	W	AUG 31	Grissom	Proteins: primary structure	3
5	F	SEPT 2	Grissom	Proteins: secondary structure	4
6	W	SEPT 7	Grissom	Proteins: tertiary and quaternary structure	4
7	F	SEPT 9	Grissom	Enzymes	6
8	M	SEPT 12	Grissom	Enzymatic catalysis	6
9	W	SEPT 14	Grissom	Enzyme kinetics	6
10	F	SEPT 16	Grissom	Enzyme inhibition	6
11	M	SEPT 19	David	Regulatory enzymes	6
12	W	SEPT 21	David	Hemoglobin and oxygen binding	5.1
13	F	SEPT 23	EXAM I	Chapters 1, 2, 3, 4, 5.1, 6	EXAM I
14	M	SEPT 26	Grissom	Carbohydrates	7
15	W	SEPT 28	Grissom	Carbohydrates	7
16	F	SEPT 30	Grissom	Bioenergetics; chemical redox reactions	13
17	M	OCT 3	Grissom	Vitamins and cofactors	13
18	W	OCT 5	Grissom	Glycolysis	14
HOLIDAY	F	OCT 7	HOLIDAY	SEMESTER BREAK – No Class	HOLIDAY
19	M	OCT 10	Grissom	Gluconeogenesis	14
20	W	OCT 12	Grissom	Pentose phosphate pathway	14
21	F	OCT 14	Grissom	Glycogen metabolism	15
22	M	OCT 17	Grissom	Metabolic Regulation	15
23	W	OCT 19	EXAM II	Chapters 7, 13, 14, 15	EXAM II
24	F	OCT 21	Grissom	TCA cycle	16
25	M	OCT 24	Grissom	TCA cycle	16
26	W	OCT 26	Grissom	Glyoxylate cycle	16
27	F	OCT 28	Grissom	Fatty acid catabolism	17
28	M	OCT 31	Grissom	Fatty acid catabolism	17
29	W	NOV 2	Grissom	Amino acid catabolism (deamination)	18
30	F	NOV 4	Grissom	Urea cycle	18
31	M	NOV 7	Grissom	Ketone bodies and energy utilization	17.3
32	W	NOV 9	Grissom	Mitochondria	19
33	F	NOV 11	Grissom	Electron transport	19
34	M	NOV 14	Grissom	Oxidative phosphorylation	19
35	W	NOV 16	Grissom	Oxidative stress and apoptosis	19
36	F	NOV 18	Grissom	Grissom Research & MD vs. PhD	
37	M	NOV 21	EXAM III	Chapters 16, 17, 18, 19.1-19.5	EXAM III
38	W	NOV 23	Grissom	No Class	
39	M	NOV 28	Grissom	Photosynthesis – light absorption	19.6-19.8
40	W	NOV 30	Grissom	Photophosphorylation	19.9
41	F	DEC 2	Grissom	Photosynthetic carbohydrate synthesis	20
42	M	DEC 5	Grissom	C4 and CAM carbon fixation	20
43	W	DEC 7	Grissom	Plant carbohydrate pathways; general Q&A	20
No Class	F	DEC 9	No Class	READING DAY - NO CLASS	NO CLASS
FINAL	T	DEC 13	FINAL	FINAL EXAM (10:30 am-12:30 pm)	Comprehensive