

BIOSC 275 – COURSE SCHEDULE – SPRING 2005

Revision may be needed during the quarter.

Week	Date	Lecture Topic and Lab	Reading
1	Mon 3/28	Lecture: Acids, Bases and Buffers Lab: Preparation of Buffers p. 51	Farrell & Ranallo (F&R) Ch. 2 p. 37-50 Voit & Voit (V&V) p. 31-37
	Wed 3/30	Lecture: Spectrophotometry - Beer's Law Protein Structure Lab: Separation/Identification of Amino Acids by TLC. p.126 part A only	F&R Ch. 3 p. 59-69 V&V p. 77-86 http://www.chm.davidson.edu/ChemistryApplets/spectrophotometry/
2	Mon 4/4	Lecture: Enzyme Kinetics Lab: Determination of protein concentration p. 70 & Kinetics of LDH – p. 199	F&R Ch. 8 p. 179-188 V&V p. 281-287, 322-347
	Wed 4/6	Quiz #1: Amino Acids, Buffers, Specs Lecture: Enzyme Kinetics (cont.) Lab: Kinetics of LDH (cont.)	http://cti.itc.virginia.edu/~cmg/Demo/scriptFrame.html – Michaelis-Menten, Lineweaver-Burke, and Reversible Inhibition
3	Mon 4/11	Lecture: Enzyme Purification – Ammonium Sulfate Precipitation Lab: A.S. precipitation of LDH Comprehensive version p.103	F&R Ch. 4 p. 83-94 V&V p. 93-104
	Wed 4/13	Lecture: Enzyme Purification – Affinity Chromatography Lab: Identification & concentration of LDH fractions	F&R Ch. 6 p. 143-147

4	Mon 4/18	<p>Quiz #2 Enzyme Kinetics</p> <p>Lecture: Enzyme Purification – Affinity Chromatography</p> <p>Affinity Chromatography p. 148 Lab: Chromatography of LDH sample</p>	F&R Ch. 7 p. 157-164
	Wed 4/20*	<p>Lecture: Gel Filtration Chromatography</p> <p>Lab: Gel Filtration of LDH sample p. 169</p>	F&R Ch. 7 p. 157-164

5	Mon 4/25	Lab: Identification & concentration of LDH fractions	
	Wed 4/27	<p>Lecture: Electrophoretic Techniques</p> <p>Lab: SDS PAGE p. 229 Part 1 - setting up the gels</p>	<p>F&R Ch. 9 p. 207-217</p> <p>V&V p. 104-121</p>

6	Mon 5/2	<p>Quiz #3 Protein Purification</p> <p>Lecture: Electrophoretic Techniques</p> <p>Lab: Electrophoresis of LDH fractions Part 2 – running the gels</p>	F&R Ch. 9 (cont)
	Wed 5/4	<p>High Performance Liquid Chromatography (HPLC) - Ion Exchange Chromatography</p> <p>Lab: Introduction to hardware and software</p>	<p>F&R Ch. 5 p. 111-124</p> <p>Handouts</p>

7	Mon 5/9**	<p>Lecture: HPLC continued</p> <p>Lab: Identification of isoenzyme Fractions - p. 133 (modified protocol)</p>	V&V p. 124-157 (completion of this reading is primarily important for the final)
	Wed 5/11	Lab: Identification of isoenzyme Fractions - part 2 data analysis	

8	Mon 5/16	Lecture: Two-dimensional Electrophoresis Part 1 Lab: 1 st Dimension - Isoelectric Focusing	Handouts
	Wed 5/18	Lecture: Two-dimensional Electrophoresis Part 2 Lab: 2 nd Dimension - SDS Page Electrophoresis	
9	Mon 5/23	Lecture: Introduction to virtual protein purification. Guest Speaker – Quality Control & Good Manufacturing Practices	V&V p. 288-319
	Wed 5/25	Quiz #4 Electrophoresis of Proteins Lab: Complete All lab work	http://www.tlsu.leeds.ac.uk/courses/bioc2060/proteinlab102/proteinlab.html
10	Mon 5/30	MEMORIAL DAY – NO CLASS	
	Wed 6/1	Presentation and Discussion of Virtual Protein Purification LAB NOTEBOOKS DUE	
11	Mon 6/6	Review for Final	
	Wed 6/8	Final Exam – During Scheduled Class Time	

***April 21st is the last day for the P/NC option**

****May 9th is the last day to withdraw and receive a W grade**