

CHEMISTRY 451 – BIOCHEMISTRY II

Southern Connecticut State University

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JE 323

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Spring Semester 2006

Prerequisites: CHE 450

Text: *Fundamentals of Biochemistry*, 2nd ed., Voet, Voet & Pratt (2005).

Laboratory Manual: A set of handout is available.

Course Overview: Biochemistry is a physical science that applied to biological problems. Biochemistry involves the study of the structure and function of the molecules that make up living cells. Understanding the structural properties of a molecule enables us to form hypotheses about its interaction with other molecules and its function in the cell. CHE 451 is the second half of a two-semester biochemistry course. In CHE 451, we will focus on two major types of biomolecules: lipids and nucleic acids. We will also discuss the building blocks used to construct them. Further topics will include fatty acid and protein metabolism, the assembly of macromolecules into cellular structures such as membranes, receptors, and transport systems.

Final Course Evaluation:

Three one-hour examinations	40%
e-grade assignments	10%
Laboratory grade	25%
Final examination (Cumulative)	25%

The final grade will be determined by the percentage of points obtained. The actual grade will be based on the Southern Connecticut State University grading scale with possible adjustment for class average at the end of the semester (if necessary).

Please remember that it is the policy of the Chemistry Department at Southern Connecticut State University that, to receive a passing grade in CHE 451, you **MUST pass the laboratory portion of the course**. A passing grade for the laboratory portion of the course is a 60%.

Illness and Absences: if you are absolutely unable to attend an examination due to illness or other crisis, please leave a message on my voice mail at 392-6272 or in the Departmental Office at 392-6260. If you wish to take a make-up examination, you must provide me with a medical excuse or other proof of illness.

Laboratory: The Chemistry Department requires that everyone wear Safety Glasses while in the laboratory, beginning with the first lab. If you show up for any laboratory

period without Safety Glasses, you will NOT be allowed to perform the experiment and you will receive a zero grade for that experiment. The proper Safety Glasses must meet OSHA regulations and can be purchased through Chemistry Club.

Course Outline:

<u>Lecture #</u>	<u>Topic</u>
1 - 4	Chapter 15: Glycogen Metabolism and Gluconeogenesis
5 - 8	Chapter 9: Lipids
9 - 11	Chapter 10: Biological Membranes
12	Chapter 19: Lipid Metabolism
13	Feb. 24 Exam 1
14 - 18	Chapter 19 cont'd
19 & 20	Chapter 18: Photosynthesis
21 & 22	Chapter 20: Amino Acid Metabolism: Urea Cycle
23 - 25	Chapter 3: Nucleic Acids
26	Mar. 31 Exam II
27 - 36	Chapter 23 - 26: DNA, RNA and Protein Synthesis
37 - 39	Special Topics: Receptors and Signal Transduction
40	May 8 Exam III
41	Special Topics cont'd
May 15	Final Exam (Cumulative)