

Reading: Chapter 14, pages 14-19 through 14-46, and pages 14-52 through 14-53 (sections 14.4 through 14.8). [You are not responsible for the sections about compounds found in membranes or transport through membranes discussed on pages 14-47 through 14-51. You are also not responsible for sections about synthetic steroids and lipoproteins discussed on pages 14-54 through 14-56.]

Objectives: By the time you have finished your work on this material, you should know the following information:

- 1) How to recognize and classify various types of glycosidic linkages.
- 2) The monosaccharide components of maltose, sucrose, lactose, and the important polysaccharides, and the types of glycosidic linkages in the di- and polysaccharides.
- 3) The biological and nutritional roles of glucose, fructose, sucrose, lactose, glycogen, starch (amylose and amylopectin), and cellulose.
- 4) How to recognize a fatty acid, and how to classify a fatty acid based on the number and position of the alkene groups.
- 5) How to draw the structure of a triglyceride, if you know the structures of the fatty acids that it contains.
- 6) The relationship between the structure and the physical properties of fatty acids and triglycerides.
- 7) How to draw the products that are formed when a triglyceride is hydrogenated, and chemical impact of partial hydrogenation on a fatty acid.
- 8) How to draw the products that are formed when a triglyceride is hydrolyzed, and fact that basic hydrolysis produces soaps.
- 9) How to recognize a glycerophospholipid, including the components involved: glycerol, fatty acids, phosphate, and an amino alcohol.
- 10) The lipid bilayer is made up of primarily glycerophospholipids and the fundamental structural unit of biological membranes.
- 11) How to recognize a steroid molecule.
- 12) The physiological importance of steroids.

Homework Assignment 17 (Turn in before the final exam, Dec 15, for extra credit!):

Page 14-27: problems 14.16, 14.17, 14.18, 14.19, 14.20, 14.21, 14.22, 14.23, 14.24 and 14.25

Pages 14-35 and 14-36: problems 14.27, 14.28, 14.29, 14.31 and 14.32

Page 14-42: problems 14.34, 14.35, 14.36, 14.37 and 14.38

Page 14-51: problems 14.40 through 14.43

Page 14-56: problems 14.48 and 14.49

FINAL EXAM: Tuesday, Dec 15th, 6:30-9:30 pm, Room S-136

The final exam will be comprehensive, covering material from chapters 1-14 (up through section 14.6). It will be a mix of multiple choice and short answer questions. **Multiple choice questions will cover all chapters. Short answer questions will focus a little more on the objectives from the last two chapters, Chapter 13 and Chapter 14.** Use the **objective sheets** as a guide to review. Use your old exams and quizzes as a source of practice problems. For chapter 14, focus on the recent homework problems. For extra practice with these last chapters, please consider doing some of the end-of-chapter problems. A seating chart will be posted on the class website before Tuesday 12/15.

Extra Office Hours: Thursday 3:30-5:00, Friday 4:30-5:00, Monday 2:30-3:30, Tuesday 4:30-6:00. I can also answer straight-forward questions via email.