

INTRODUCTION TO CHEMISTRY 32B – Spring 2009

Course Syllabus

Instructor: Dr. Tyler Johnson; tjohnson@sjcc.edu;

Office Hrs: Monday: 345-445 and Wednesday: 12:15-1:15 pm.

Lecture: M/W: 10:45-12:10 PM in S-205 and Laboratory M 12:40-3:45 PM in S-201 (computer) or S-211 (lab).

Mailbox: In reprographics, SJCC (leave message) or S-101.

Required Materials: “*General, Organic and Biochemistry*” text, Bettelheim, Brown, and March, , 7th ed., 2004, Thomson-Brooks/Cole;

The following are also available in the campus bookstore and sold in separate shrink-wrap packages: (a) “*Chime Molecular Modeling Exercises*”, and (b) “*Laboratory Manual*” (contains experiments), (c) *Safety Goggles* to protect your eyes for working in the laboratory (eye protection is mandatory!); (molecular model kit.

STRONGLY Recommended Materials: laboratory lab coat, smock, or apron, electronic calculator with scientific functions (log, exponent, etc.).

Optional Materials: Nursing School Entrance Exam Review Supplement, Brooks/Cole, 2005; laminated periodic table and/or quick study chart.

Purpose of the syllabus: This syllabus contains the lecture and laboratory schedules for the course and the rules and regulations by which your performance will be evaluated. It is important that you understand the contents of this document. The tentative course schedule will allow you to read the relevant units in the text and laboratory experiments prior to the discussion of the material. By reading ahead you will be able to comprehend the lecture more efficiently. It is strongly advised that you also do the homework problems as they are assigned. When you don’t understand the course or laboratory material, promptly, seek help from the instructor (e.g. see Instructor during office hours), FORM volunteer study groups, and or seek interactive chemistry tutor computer programs.

Course Description and Goals: Introduction to General Organic and Biological Chemistry (32B) is a four-credit course. The lecture component of the course meets on Mondays and Wednesdays from 10:45-12:10 pm in S-205 and the lab meets on Monday from 12:40-3:45 pm in S-201 (computer lab) or S-211 (wet lab). Chemistry 32B is the second semester introductory chemistry course (i.e. continuation of Chemistry 32A). It is primarily intended to prepare students for careers in the allied health field, aeronautical operations, dental hygiene, x-ray technology, vacuum technology, and home economics as well as industrial arts and industrial technology. The course covers the basic principles of chemistry and tends to be descriptive rather than mathematical. Topics include hydrocarbons, fossil fuels and octane ratings; hydrocarbon derivatives such as alcohols, ethers, carbonyl compounds, carboxylic acids, esters and amines; and an introduction to structure and properties of carbohydrates, lipids, proteins, natural products, drugs, agricultural chemicals and polymers.

Learning Outcomes: As a result of this course you will be able to: differentiate various types of organic compounds; recognize simple organic reactions and predict their products; describe how the structure of

a molecule affects its physical properties; explain isomerism and describe its importance in organic chemistry; describe the importance of various biochemical molecules such as carbohydrates, lipids, proteins and DNA; explain the 3-D structure of biomolecules and recognize the relationship between the structure and functions of these molecules; give brief explanations of biological metabolisms; describe some important biological processes such as enzyme regulation, hormone regulation, and DNA replication.

Recommended study habits include:

1. Read textbook before class.
2. Do all assigned homework problems
3. Use solutions manual to answer questions you may have about subject matter.
4. Form study groups to answer Qs.

HOMEWORK:

1. Assigned every Monday:
2. Turn in next Monday. STAPLED with GOOD Handwriting. If I can't read it = No Points.
3. Turned back following Monday or sooner

Grading Policy:

The grade earned in this course will be assessed based on the following criteria and will depend on the sum total points earned in lecture and lab. The following weighting factors will be used:

<i>Lecture</i>			<u>Points</u>
Midterm Exams	30%	300	(4@ 100 points each, drop lowest)
Final Exam	15%	150	
Homework	15%	150	
Quizzes	10%	100	(5@ 25 points each, drop lowest)
Subtotal	70%	700	points
<i>Laboratory</i>			
Chime Exercises (10%), lab reports (10%), conduct, and safety quiz (10%)	30%	300	
Subtotal	30%	300	points
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Total	100%	1000	points

Note: • Preparing in advance for each new lecture topic by skimming the chapter and end of chapter summary tables and/or sections is very helpful • Spend 10 or more hours studying in connection with each lecture to understand the principles introduced. • Working problems **without looking at the answers** is an important learning step in the mastery of organic chemistry. These are listed on the suggested homework problems list.

• **Falling behind is deadly!** The material presented this quarter is too difficult for last minute cramming. Read and re-read sections in the *StudyGuide/Solutions Manual* • Carefully note exam dates and times- **make-up exams are not given.** •

--Thank you. We look forward to our association in chemistry this semester and trust that we will all have fun and find our study to be an intellectually stimulating and enjoyable learning experience. Best wishes and cheers to your success in chemistry! -----Sincerely, Tyler.