San José State University
Department of Chemistry
CHEM 112A: Organic Chemistry I

Instructor: Dr. David Brook
Office location: SCI 166
Telephone: (408) 924-4994
Email: david.brook@science.sjsu.edu
Office hours: TTh 0930-1100 or by appointment
Class days/time: Section 1: TTh 0800-0915
                Section 4: MW 0900-1015
Final Exam: Section 1: Monday May 20, 0715-0930
            Section 4: Tuesday May 21, 0715-0930
Classroom: Section 1: SCI 142
           Section 4: SCI 164
Prerequisites: Chem 1B with grade of C or better.

Faculty Web Page
Copies of the course syllabus may be found on my faculty web page:
http://www.sjsu.edu/people/david.brook/courses/c2/
Updates and information will also be distributed by e-mail. Make sure I have a working email
address for you by sending a message to my email address with REGCHEM112A in the subject
line. You may also use my email address, david.brook@sjsu.edu, for questions, etc. Please put
CHEM112A in the subject line of any emails related to this class.

Course Description and Goals
An introduction to organic chemistry, covering introductory nomenclature, structure and
stereochemistry, bonding models, (including the valence bond model, resonance, the molecular
orbital model and aromaticity), acidity in organic chemistry, elementary reaction mechanisms
and the chemistry of several classes of compounds including alkanes, alkenes, alkynes, aromatics
and alkyl halides

Organization: While the sequence of topics in the text provides a good foundation, the lectures
may utilize material from later (and earlier) chapters. Schedule handouts will be distributed in
class giving tentative dates for reading assignments. You are encouraged to work all of the
problems in the text; some problems on the exams will be taken from the text. Because the
course is built up in a cumulative manner, material from the first chapters will be important to
understanding later chapters. It is therefore important not to fall behind. You should seek help.
with material you may be having trouble with as you go along rather than deferring it to right before an exam.

**Program Learning Objectives**

CHEM 112A (in conjunction with CHEM 112B) covers Program Learning Objective #2: Demonstrate understanding of core concepts and to effectively solve problems in organic chemistry.

**Course Learning Objectives**

Understanding the various ways organic chemical structures are depicted.

Drawing organic chemical structures from names (and *vice-versa*).

Naming Structures including stereoisomers and geometric isomers.

Knowledge of the two models of bonding used in organic chemistry.

Understanding the basic concepts of thermodynamics and kinetics as applied to organic chemistry.

Understanding the concepts of acidity and basicity, pKa, Lewis acids, Lewis bases, electrophiles and nucleophiles as applied to organic chemistry.

Use of ‘curly arrows’ to depict reaction mechanisms.

Knowledge of the basic mechanisms of substitution and elimination (Sn1, Sn2, E1, E2, E1cb).

Basic reactions of alkanes, alkenes, alkynes, alkyl halides and aromatic compounds.

**Texts and Other Items**

- McMurry, Organic Chemistry
- Register on www.saplinglearning.com
- A set of molecular models.
- Student photo-ID card at all exams (see below).

**Exam Schedule**

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<tr>
<td>Mid-Term 1</td>
<td>Th Feb 21st</td>
<td>Wed Feb 20</td>
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<td>Mid-Term 2</td>
<td>Th Mar 21st</td>
<td>Wed Mar 20</td>
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<td>Mid-Term 3</td>
<td>Th May 2nd</td>
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<td>Final Exam</td>
<td>Mon May 20, 0715</td>
<td>Tue May 21, 0715</td>
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Grading

The grading scheme is tentative but will probably consist of three exams (100 points each) online homework (see below) (100 points) and a final exam (250 points). Individual make-up exams will not be given. You may only take the exam in the section for which you are officially enrolled. If you believe there has been a grading error, please bring it to my attention within two calendar weeks after the exam has been returned; no regrades will be done after this period.

Extra Credit problems may be assigned as the instructor sees fit. These will be graded on an all or nothing basis.

Online Homework

Online homework will be completed using Sapling Learning (www.sapling.com). You must enroll on the Sapling website (cost $29.99) and search for CHEM 112A. In addition to contributing to your grade, the online homework problems give you important practice and feedback in solving problems in organic chemistry. There is a set of problems for each chapter we will cover. You may complete the problems at your own pace, but I strongly recommend you complete the relevant assignments before each midterm. You may take repeated attempts to answer each question correctly, but each time you lose 5% of the possible credit.

Dropping and Adding

You are responsible for understanding the policies and procedures about add/drops, academic renewal, etc. found at http://sa.sjsu.edu/student_conduct. You should be aware of the new deadlines and penalties for adding and dropping classes.

University Policies

Emergencies and Evacuations

If you hear a continuously sounding alarm, or are told to evacuate by Emergency Coordinators (colored badge identification), walk quickly to the nearest stairway (end of each hall). Take your personal belongings, as you may not be allowed to immediately return. Follow instructions of Emergency Coordinators. Be quiet so you can hear. Once outside, move away from the building. Do not return to the building unless the Police or Emergency Coordinators announce that you may.

Academic integrity

Students are expected to be familiar with the University’s Academic Integrity Policy. Please review this at http://sa.sjsu.edu/student_conduct. “Your own commitment to learning, as evidenced by your enrollment at San Jose State University and the University’s integrity policy, require you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical development.”

Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person’s ideas without giving
proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified.

**Campus Policy in Compliance with the American Disabilities Act**

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must register with the DRC (Disability Resource Center) to establish a record of their disability.

Special accommodations for exams require ample notice to the testing office and must be submitted to the instructor well in advance of the exam date.

**Workload Expectations**

Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of forty-five hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.