

ORGANIC CHEMISTRY 1 (CHEMISTRY 221)
SPRING SEMESTER 2008

- INSTRUCTOR:** Section 1: Mark Stocksdale
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Section 2: Olen Stephens
SH 251; Phone: 983-1364; E-mail: stephol@earlham.edu
- LECTURE:** Section 1: M,W,F 9:00 AM; Stanley Hall 035
Section 2: M,W,F 10:00 AM; Stanley Hall 035
- LAB:** M or T or R or F 1:00 PM – 4 PM; or W 2:30 – 5:30 PM
- TEXT:** Organic Chemistry, 9th Ed.; Solomons and Fryhle; Wiley & Sons 2008 (REQUIRED)
Study guide and Solutions Manual; Model Set (STRONGLY RECOMMENDED)
(Text and Model Set available at Earlham Bookstore as a discounted packaged deal)
- Course related materials will be available online at: <https://moodle.earlham.edu>.
ISBNs for the Text and Study Guide and Solutions Manual also on Moodle.
- Direct link to the Darling Molecular Model Company:
(http://www.darlingmodels.com/item--KIT-3-ISBN-0-9648837-4-0-MOLECULAR-VISIONS-Organic-Kit--kit_3_student.html)
- COURSE:** This is the first semester course of a two-semester sequence of organic chemistry. This course will introduce and emphasize the structure, stereochemistry, functional group organization, physical properties and classical reactivity of a variety of organic compounds. The approach of this course will be to solve problems and projects by emphasizing the logic of organic reaction mechanisms and retrosynthetic analysis. Whenever appropriate and possible the biological relevance of the organic topics will also be discussed. A weekly 3-hour laboratory will provide a small-group learning environment where each student will have hands-on experience with modern organic methods and techniques. Laboratory experiences are designed to complement the lecture.
- PREREQUISITE:** Chem 111 with at least a "C" final grade; acceptable Gen. Chem. transfer credit ("C" or better grade); or 4 or 5 on AP exam. See me for further information if necessary.
- ACADEMIC INTEGRITY:** Earlham's academic integrity policy applies to all scored assignments in both the lecture and laboratory sections of this course. Full discussions and explanations of Earlham's policies and guidelines (including Academic Integrity) are found at the following url: <http://www.earlham.edu/policies/>. All students will be held to these policies. Each student is personally responsible for reading and knowing/understanding the content of these policies. Individual assignments may list/detail additional specific expectations as well as permitted resources. If you have questions or need clarity regarding expectations on any assignment, **ASK (Mark or Olen) BEFORE you ACT!**
- QUIZZES:** Quizzes will typically cover course material most recently addressed, and will be given during the final 15-20 minutes of the class period assigned. Seven (7) quizzes will be given; only the top five (5) quiz scores for an individual will be kept. **THERE WILL BE NO QUIZ MAKE-UPS.**
- EXAMS:** Unless modifications are made in class, each exam will cover sections listed on the schedule. Each exam will begin promptly at 9:00 AM and will end at 10:00 AM (Section 1) or 10:00 AM to 11:00 AM (Section 2). The amount of material on each exam will reflect this time constraint.

Any student with a documented disability (e.g., physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact Academic Support Services and the instructors at the beginning of each semester. *Accommodation arrangements must be made during the first-two weeks of the semester.* **Documentation must be supplied to the instructors.**

There will be no make-ups for missed exams except for legitimate reasons. Exams are to be taken on the day and time specified on the schedule. If you know in advance that you must miss an exam, you **must get prior approval** from the instructor. Upon approval, you will schedule an earlier alternative exam time (the exam may be different than given to the class but will be of similar challenge). If you must miss an exam because of unexpected reasons (e.g. **sudden illness and/or other sudden emergency**) and could not arrange to notify your instructor in advance, then **you must contact your instructor** as soon as the situation permits to explain the situation. If you are suffering from an illness, *you will need to also secure a statement from Health Services explaining your illness.* If you don't reach your instructor at his or her office number, then leave a message on the answering system at the office number. You may, *in addition*, send an e-mail message. Having multiple exams on the same day is not considered an unanticipated emergency. Failure to adhere to these policies will result in a zero (0) being recorded for the missed exam (**NO EXCEPTIONS**).

FINAL EXAM: The final exam will be cumulative including all new material covered after Exam III. There are **no exemptions** from the final exam.

LABORATORY: The laboratory grade will account for 18.8% of your overall point total (unless you enroll in the "Homework-Plan". Grading, expectations, and requirements for the laboratory are outlined in the laboratory syllabus. Further details will be communicated to you by your laboratory instructor.

HOMEWORK: There will be two options available to students in this course regarding homework. Each option is briefly explained below, and each student must officially **select one** of two options **by the due date of the first set of homework problems.**

Option 1: Students choosing this option will receive **no grade for homework.** Each student is considered an **adult learner** and **is expected and responsible** to attempt all chapter problems assigned and to keep up with the material being covered. All answers to suggested text problems are found in the *Study Guide and Solutions Manual*. Often, problems found on quizzes and exams will be of similar format and difficulty as those in the text. Additional practice problem sets will be available throughout the semester.

Option 2 (aka: "The Plan"): Students choosing this option **will receive a grade for homework.** Each student under "The Plan" will complete and turn-in for checking all designated problems assigned for each chapter as well as designated class work-sheets. "The Plan" will account for additional points added to the semester total. "The Plan's" added points will have the effect of slightly reducing the percentage each individual grade category contributes to the overall grade (see *Evaluation* section).

OFFICE HELP: OPEN DOOR POLICY and/or BY APPOINTMENT: Your instructor is available to assist anyone who needs/wants additional help and/or feedback. Please stop by his or her office anytime the door is open. Additionally, make an appointment for a scheduled help time. ***Do not overlook this valuable resource.***

SCHEDULE: The attached schedule gives approximate dates for classroom coverage of specific sections from the text. Exam and quiz dates will not be altered but will reflect any changes made in the projected classroom coverage of topics (accelerated or decelerated).

EXAM DATES: Exam 1: Feb. 1 Exam 2: Feb. 29 Exam 3: April 11

QUIZ DATES: Jan. 16; Jan. 25; Feb. 13; Feb. 20;
March 14 April 02; April 21

FINAL EXAM: Section 1: Monday, April 28 — 2:00 P.M.
Section 2: Wednesday, April 30 — 8:00 A.M.

EVALUATION:		<u>Option 1</u>	
Exams:	3 x 100 pts	300 pts	37.5%
Quizzes:	5 x 20 pts	100 pts	12.5%
Final Exam		250 pts	31.2%
<u>Laboratory</u>		<u>150 pts</u>	<u>18.8%</u>
Total		800 pts	100%

		<u>Option 2</u>	
Homework	10 x 5 pts	50 pts	5.9%
Exams:	3 x 100 pts	300 pts	35.3%
Quizzes:	5 x 20 pts	100 pts	11.8%
Final Exam		250 pts	29.4%
<u>Laboratory</u>		<u>150 pts</u>	<u>17.6%</u>
Total		850 pts	100%

IMPORTANT NOTE!! A passing grade for this course will only be granted to students passing **both** the lecture and laboratory sections! For example: regardless of your lecture score, you must pass the laboratory to receive a passing grade overall for the course.

Also...a grade of "C" or better in Organic 1 is a prerequisite for taking Organic Chemistry 2!!

Date	Text Section(s)*	Subject(s)	Notes
1/09	Syllabus and Ch 1.1 – 1.10	Chemical Bonds / Org. Chem.: (Student Review of Gen. Chem)	
1/11	Ch 1	Orbitals, Hybridization, Structures Intro	
1/14	Ch 1	Orbitals, Hybridization, Structures (Finish)	
1/16	Ch 2	Orbitals, Hybridization, Structures (Finish)	QUIZ 1
1/18	Ch 2	Functional Groups / Properties Intro	
1/21	Ch 2	Functional Groups	
1/23	Ch 2	Functional Groups	
1/25	Ch 2	Infrared Spectroscopy	QUIZ 2
1/28	Ch 2	Infrared Spectroscopy	
1/30	Ch 3	Org. Rxns: Mechanism; Acids/Bases; Thermo	
2/01	-----	EXAM I -----	
2/04	Ch 3	Org. Rxns: Mechanism; Acids/Bases; Thermo	
2/06	Ch 3	Org. Rxns: Mechanism; Acids/Bases; Thermo	
2/08	Ch 4	Alkanes, Cycloalkanes: Nomenclature / Conformations	
2/11	Ch 4	Alkanes, Cycloalkanes: Nomenclature / Conformations	
2/13	Ch 4	Alkanes, Cycloalkanes: Conformations	QUIZ 3
2/15	Ch 5	Stereochemistry and Chiral Molecules	

2/18	Ch 5	Stereochemistry and Chiral Molecules	
2/20	Ch 5	Stereochemistry and Chiral Molecules	QUIZ 4
2/22	Ch 5	MIDTERM BREAK NO CLASS	
2/25	Ch 6	Nucleophilic Substitutions and Elimination Reactions	
2/27	Ch 6	Nucleophilic Substitutions and Elimination Reactions	
2/29	-----	EXAM II -----	
3/03	Ch 6	Nucleophilic Substitutions and Elimination Reactions	
3/05	Ch 6	Nucleophilic Substitutions and Elimination Reactions	
3/07	Ch 6	Nucleophilic Substitutions and Elimination Reactions	
3/10	Ch 6	Nucleophilic Substitutions and Eliminations	
3/12	Ch 6	Nucleophilic Substitutions and Elimination Reactions	
3/14	Ch 7	Alkenes, Alkynes: Properties and Preparation	QUIZ 5
3/17 – 3/21	SPRING BREAK	NO CLASSES	
3/24	Ch 7	Alkenes, Alkynes: Properties and Preparation	
3/26	Ch 7	Alkenes, Alkynes: Properties and Preparation	
3/28	Ch 7	Alkenes, Alkynes: Properties and Preparation	
3/31	Ch 7	Alkenes, Alkynes: Properties and Preparation	
4/02	Ch 7	Alkenes, Alkynes: Properties and Preparation	QUIZ 6
4/04	Ch 8	Alkenes, Alkynes: Addition Reactions	
4/07	Ch 8	Alkenes, Alkynes: Addition Reactions	
4/09	Ch 8	Alkenes, Alkynes: Addition Reactions	
4/11	-----	EXAM III -----	
4/14	Ch 8	Alkenes, Alkynes: Addition Reactions	
4/16	Ch 8	Alkenes, Alkynes: Addition Reactions	
4/18	Ch 5 – 8	Synthesis and Application	
4/21	Ch 5 – 8	Synthesis and Application	QUIZ 7
4/23	Ch 5 – 8	Synthesis and Application	
4/25	Ch 5 – 8	Synthesis and Application (Last Class Day)	

FINAL (Cumulative including material since Exam III)

Section 1: Monday, April 28 — 2:00 P.M.

Section 2: Wednesday, April 30 — 8:00 A.M.

* Chapter sections listed for coverage are subject to change as needed and will be announced in class.