

## COURSE SYLLABUS

- A. **Course Goal:** Understand organic chemistry principles as a foundation for the interdisciplinary chemical science. This course will use a thematic approach to connect topics in order to develop commonsense in fundamental organic reactions, synthetic chemistry, and biomolecule structure-function. The latter seeks to unravel the molecular processes of life in chemical terms by building upon the understanding of organic structures and reaction mechanisms.
- B. **Course Content:** Organic Chemistry II deals with synthetic reactions, mechanisms, and structure-function relationships. Course materials include Chap. 16-28 of the text by Hornback, JM, 2<sup>nd</sup> Edition, the accompanying Study Guide, and handouts.

### Bring Text to Class

#### Road map

**1<sup>st</sup> Segment. *Fundamental Organic Reactions (7 lectures)***

- Chap **16,17** Aromaticity, electrophilic/nucleophilic substitutions of aromatics (Ionic Rx)  
**22** (5-6) Cycloaddition and Diels-Alder Reaction (Concerted Rx)  
**21, 24** (1) Radicals and radical chain polymerization (Stepwise Rx)

**2<sup>nd</sup> Segment. *Synthetic Chemistry (7 lectures)***

- Chap **18,19** Nucleophilic additions of aldehydes and ketones; nucleophilic acyl substitutions of carboxyl derivatives  
**20,23** (1-4)  $\alpha$ -Carbanion reactions based on keto-enol structures; protecting groups

**3<sup>rd</sup> Segment. *Biomolecule Structure-function (7 lectures)***

- Functions define the purpose of learning the biomolecules, and structures provide the physical basis for understanding their functions.  
Chap **28,25,26,27** Lipids, Carbohydrates, Amino acids and proteins, Nucleic acids

C. **Examination Schedule and Grading:**

Three 90-minute exams will be given on the following dates:

<u>Exam</u>	<u>Date</u>	<u>Grade</u>
I Segment 1	7/16 W	100 pts
II Segment 2	7/28 M	100 pts
III Segment 3	8/07 R	100 pts

Recitation Quiz = 100 pts (Six 20-min quizzes given in recitations, 20 pts each; two for each segment; count hi 5 thus providing for an emergency miss. Any more missed quiz is counted zero).

Total accumulation points = 400 max.

The course letter grade cut-offs are as follows: A/B 340 (85%), B/C 280(70%), C/D 240(60%), and D/F 200(50%). Your course performance will be evaluated by the straight-grade system of ABCDF (no plus/minus and no other grades).

## Please Note

1. **There will be no make-up exams or quizzes. If one of the three scheduled exams is missed due to an emergency (documentation required), grading basis = 300 pts max. If another exam is missed for whatever reason, the missed exam is counted zero.**
2. Re-grading of Exams: In case of grading errors, you may have the whole exam re-graded. Consult the exam answer key before resubmitting an exam for re-grading.
3. You will be asked to sign on the class roster for identity check when you turn in exam.

### D. **Enlightenment:**

- (1) Go to [www.louisville.edu/a-s/chemistry/syllabi.htm](http://www.louisville.edu/a-s/chemistry/syllabi.htm) for course materials (Assignments, etc.).
- (2) Office hours: M&R, 8:30-9:30 am, walk-in; appointment for other times.
- (3) How exams are written: they are derived from assignments given.
- (4) Refer to the Study Guide for answers to the assigned problems.
- (5) Old exams will be made available to show exam style.

### E. **How to Study With Results to Show For:**

- (1) Ask questions, the more the better. The process of formulating questions will help to frame your mind with receptor sites for answers. This course is not a self-study and we are here to respond.
- (2) Make lectures the way to build an information framework. A lecture is aimed to show the purpose behind a concept or process. It presents a perspective view or inter-relationship (a global picture), builds up a general principle (a master key), and exemplifies its application and limitations (relate to reality). You need to interact and participate in order to acquire such insights. I will assume that you have worked on the assignment before coming to class with questions on hand.
- (3) Do the thing that counts. Work out the assignments given for each chapter. (This is reinforced in recitation quizzes.) The process of writing out structures, equations is a key to successful learning. Work the answer out on paper! Be mindful that organic chemistry is to be reasoned, not memorized.

### F. **Academic Code of Conduct:**

Consult the Student Handbook of UofL to know your rights and responsibilities. The Student Government Association is also a good source of information.

The instructor reserves the right to make changes in the syllabus when necessary to meet learning objectives, to compensate for missed classes, or for similar reasons.