

## OFFICIAL COURSE SYLLABUS DOCUMENT

**COURSE:** CHM 203-01 - ORGANIC CHEMISTRY I - 4 credits    Hybrid Course

**INSTRUCTOR:**        Nancy Thorpe, PhD

### **COURSE DESCRIPTION:**

This is the first semester of a two-semester organic chemistry sequence with laboratory. It is required for science/engineering majors and pre-professional students. The course includes alkanes, alkenes, alkynes, and alkyl halides, with an emphasis on their nomenclature, preparations, reactions, kinetics, and stereochemistry. Reaction mechanisms are emphasized. An introduction to spectroscopy and chromatography is included. Laboratory fee required. The course involves three hours of lecture and three hours of laboratory each week.

Prerequisite: CHM 103 AND CHM 104. Semester offered: Fall. 4 Credits.

### **TEXTBOOK:**

1. *Organic Chemistry, 5<sup>th</sup> ed.*, by Janice G. Smith. McGraw-Hill Education. 2017. (ISBN: 978-0-07-802155-8); with Connect access code.
2. *Organic Chemistry As A Second Language: 1<sup>st</sup> and 2<sup>nd</sup> Semester Topics. 4<sup>th</sup> ed.*, by David Klein. John Wiley & Sons, Inc. 2017. (ISBN: 978-1-119-11066-8 and 978-1-119-11065-1).
3. *Multiscale Operational Organic Chemistry: A Problem-Solving Approach to the Laboratory Course. 2<sup>nd</sup> ed.*, ed. John W. Lehman. Pearson Prentice Hall. 2009. (ISBN: 0-13-241375-2).
4. *Organic Chemistry Laboratory Notebook*. Brooks/Cole 1998. (ISBN: 0-875-40252-6).
5. **McGraw Hill Connect Homework Access Code** for textbook listed above (purchase separately of bundled with textbook.)
6. Students will also need: scientific calculator (not graphing calculator) and safety goggles.

### **STUDENT LEARNING OUTCOMES:**

At the completion of this course, students should be able to:

1. Apply both quantitative and qualitative thinking processes and reasoning skills to core content for organic chemistry.
2. Communicate organic chemistry concepts in writing and by use of appropriate technology and proper terminology and nomenclature to both scientists and non-scientists (e.g. maintain a laboratory notebook).
3. Collect, analyze, and evaluate empirical data to substantiate chemical concepts.
4. Apply course content to environmental and health-related issues (e.g., pollution, global warming, toxicology, pharmacology, environmental health).
5. Access, process, analyze and synthesize scientific information.

### **TOTAL HOURS OF COURSE WORK EXPECTED:**

In order to meet the minimum requirements for a 4 credit class, the number of class/study hours expected of the student is multiplied by 3. The total work required to earn four college credits – 150 hours/semester, or 12 hours/week during a 15 week semester (includes class time plus additional homework/study time outside of class).

Please be aware that certain courses, or certain students, may require more than *minimum* hours of work per credit each week in order to be successful in that course.

Credit Hour to Clock Hour Calculation (for 4 credit course)

Direct Faculty Instruction: One hour Instruction/week/credit

$$(50 \text{ min} * 15 \text{ weeks}) \div 60 \text{ min/h} = 12.5 \text{ h/credit} * 4 \text{ credits} = 50 \text{ hours}$$

Student work out of classroom: (Two hours per credit per semester)

$$(2 * 50 \text{ min} * 15 \text{ weeks}) \div 60 \text{ min/h} = 25 \text{ h/credit} * 4 \text{ credits} = 100 \text{ hours}$$

Hybrid Class: 1 hour recitation time and 3 hour lab time each week = total 50 hours in-class time.

	Direct faculty contact (in-class)	Student Work outside of class
Viewing online lectures/ reading assignments		20 h
3 Lecture Exams and Comprehensive Final Exam in testing center (4 h*2) Prep time LSC/Home (6 h*4 exams)		8 h (taking exams) 24 h (exam prep)
6 – 8 quizzes		6- 8 h (quiz prep)
Homework Assignments (online and written)		20 h
Lab time/recitation time	50.0 h	
Lab Preparation	1 h/lab*10 labs	10 h
Lab Practical Prep	2 h study time*2	4 h
Lab Report Completion	2 h/lab* 10 labs	20 h
Total “lecture” and lab	50.0 h	112 - 114 h+
<b>TOTAL</b>	<b>162-164+ h (exceeds minimum of 150 h for 4 credits)</b>	