



SEMESTER

Life and Natural Sciences Department School of Science, Technology, Engineering, and Mathematics

Program Name: Chemistry
Course Name: Organic Chemistry 1 – Lecture
Course Number: CHM201 **Section:** XXX
Meeting Day(s) & Time(s):
Credits: 5 credit hours combined (Lecture and Laboratory)
Contact Hours: 4
Text: *Organic Chemistry, 12th Edition*; Solomons, T.W.G. and C.B. Fryhle., J.C. Wiley and Sons Publishers, 2016.
Instructor Name:
Office Location:
Office Hours:
Virtual Office Hours:
Owens CC Phone:
Owens CC Email:**
Additional Contact Information:
**Please use only Owens email for course communications.

CATALOG DESCRIPTION

The first semester of a two-semester sequence. The advanced course with emphasis on the relationship between structure and reactivity. Topics include bonding in carbon compounds, functional groups, organic acid-base reactions, nomenclature, physical properties, structure, synthesis, and reaction mechanisms for alkanes, alkyl halides, alkenes, alkynes, stereochemistry, structure determination, and radical reactions. Laboratory work covers the separation techniques, instrumental analysis and microscale manipulations. (Can fulfill Sciences requirement in Associate of Science Degree programs. Students retaking this course must repeat both the lab and lecture.

PREREQUISITE: CHM121 with a C grade or better

COREQUISITE: None

TEXTBOOKS and MATERIALS

- *Organic Chemistry, 12th Edition*; Solomons, T.W.G. and C.B. Fryhle., J.C. Wiley and Sons Publishers, 2016.
- Scientific calculator
- Molecular model set (optional)
- *A Microscale Approach to Organic Laboratory Techniques*, Pavia, D., Lampman, G., Kriz G., and Engel, R., Cengage Learning, 2018.

*Your **print book, e-book, or access code** required for class can be accessed through the Owens Community College e-Campus Bookstore by accessing the online link, called "Find Books" on the course schedule for each course section.*

GENERAL COURSE INFORMATION

Course Objectives

To provide the student with an approach to organic chemistry that emphasizes the relationship between structure of organic compounds and their reactivity.

Institutional General Education Competencies:

As a student at Owens Community College, you will take General Education courses as part of your degree program. While specific to the General Education courses, will be reinforced in many of your degree program major courses and may be measured in your capstone course(s) and others as identified.

Competency	Assessed
Think analytically, critically, and creatively	Homework Assignments/Question Sets/Lab Reports
Communicate effectively	Exams/Quizzes/Lab Reports

Lecture Student Learning Outcome

1. Describe the structure of carbon compounds and chemical bonding using Lewis structures, resonance theory, hybridization, and molecular orbital theory.
2. Identify the representative carbon compounds, functional groups and the instrumental methods for detecting the functional groups.
3. Discuss reaction mechanisms through acid-base reactions with emphasis on equilibrium constants and energy changes.
4. Utilize curved arrows to designate electron flow within a reaction.
5. Describe and sketch the structure and shapes of alkanes and cycloalkanes and discuss their nomenclature, isomerism, synthesis and reactions.
6. Recognize and explain chirality, enantiomerism, and diastereomerism and relate the stereochemistry to the addition, oxidation, and reduction reactions.
7. Determine stereochemistry of reaction products through an analysis of the mechanistic pathway of the reaction.

8. Compare and contrast the relationship between structure and chemical reactivity through SN1, SN2, E1, and E2 mechanisms.
9. Identify and sketch the structure of alkenes and alkynes and name using IUPAC nomenclature. Use the reactivity of carbon-carbon pi bonds and curved arrow reaction mechanisms to describe addition reactions to alkenes.
10. Examine and employ proton NMR, carbon-13 NMR, and mass spectrometry techniques for structural determination.
11. Recognize and describe the importance of radical reactions: substitution, addition, and polymerization.
12. Design multi-step synthetic strategies using addition, substitution, elimination, and other reaction types.

Laboratory Student Learning Outcomes

This laboratory is associated with the lecture portion of CHM201. Student should be able to demonstrate comprehension of:

- Organic compounds, basic synthesis reactions, separation techniques, product analysis, distillation techniques, qualitative and quantitative ionic analysis and more.

Course Rules

Attendance

Since the class discussion is an important and often effective way of learning course concepts, attendance at classes will be expected. Excessive absences could cause one to have difficulty in mastering the required course content. Attendance will be taken and recorded.

Class Participation

This is a 5-credit hour course, so you should expect to spend a minimum of 10 hours per week outside class reviewing the material for the course and completing the homework assignments. Doing the homework is essential to understanding the course material and being successful in this course.

Laboratory

Laboratory work will be conducted in conjunction with the lecture. A separate syllabus will be issued for the laboratory portion of the course. The syllabus will detail the policies and evaluation procedures for the laboratory. The score in the laboratory will be used to compute the final grade for the course. The laboratory score represents 25% of the total score for the course.

Devices

Phones and other electronic communication devices must be in silent mode during class. Unauthorized use of a phone, e-watch or tablet is not permitted during an exam. Use of these devices could result in forfeiture of exam points. Phones cannot be substituted for calculators.

GRADING PROCEDURE

EVALUATIONS

Student evaluation will be based on how well the objectives are met as shown by

performance on examinations, laboratory reports, course projects, and the comprehensive final exam.

1. **Exams** Four exams and a comprehensive final exam will be given. There will be no make-up exams. If an exam is missed due to an excused absence, such as illness, the score will be taken from the score of the final exam. If two or more exams are missed, the score for one exam will be assigned from the final, and the score for other exams will be zero. EVERY STUDENT MUST TAKE THE FINAL EXAM.

All exams are administered by the instructor in the classroom.

There are NO open book or open note exams.

During exams, unauthorized use of a phone, tablet, e-watch or any other electronic device is prohibited. Use of these devices during an exam, could result in forfeiture of exam points.

For any technical issues contact the Owens IT help desk at helpdesk@owens.edu

2. **Laboratory Grade:** See laboratory syllabus for this information.

3. **Homework Assignments:** Homework assignments will be assigned, with varying point values, utilizing the WileyPlus homework system or other instructor-specified activities.

4. **Quizzes:** Throughout the semester, quizzes will be announced and the quiz average will be incorporated in the final grade.

GRADING

There is no provision for extra credit.

Exam No. 1	10%	100 points
Exam No. 2	10%	100 points
Exam No. 3	10%	100 points
Exam No. 4	10%	100 points
Homework	7.5%	75 points
Quizzes	7.5%	75 points
Final Exam	20%	200 points
Lab Reports	25%	250 points

The Grading Scale will be as follows:

100-90%	= A
89.99-80%	= B
79.99-70%	= C
69.99-60%	= D
Below 60.00%	= F

IMPORTANT: You must earn no less than 300 points (60%) out of the 500 total possible laboratory points to pass the entire course. If you do not earn at least 300 laboratory points, you will receive an (F) letter grade for the entire course.

There is NO provision for EXTRA CREDIT to be given beyond the designated points for each laboratory exam and activity.

CHM 201 LECTURE COURSE CALENDAR & TENTATIVE SCHEDULE

Week	Date	Material
1	DATE	Chapter 1
	DATE	Last day to ADD classes
2	DATE	Chapter 2
3	DATE	Chapter 3
4	DATE	Chapter 3 (cont.), Chapter 4, Exam 1
5	DATE	Chapter 4 (cont.)
6	DATE	Chapter 5
7	DATE	Chapter 5 (cont.) Exam 2
8	DATE	Chapter 6
9	DATE	Chapter 6 (cont.)
10	DATE	Chapter 7 Exam 3
11	DATE	Chapter 8
12	DATE	Holiday
	DATE	Chapter 9
13	DATE	Chapter 9 (cont.)
14	DATE	Begin Chapter 10 Exam 4
	DATE	Holiday
15	DATE	Chapter 10 (cont.)
16	DATE	Exam Review/Catch-up
	DATE	FINAL EXAM
		Last day to DROP classes

IMPORTANT

Under some circumstances, dropping a course may negatively affect your ability to receive financial aid in future semesters. Consult your academic advisor with questions.

Academic Calendar

DATE	Semester begins
DATE	Last day of classes
DATE	Exam week
DATE	Commencement

Academic Support

Disability Services Resource Center: If you have a disability or acquire one, you may be entitled to receive reasonable accommodations intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to register for accommodations, please contact the Disability Resource Center at 567-661-7007, email disability@owens.edu, visit <https://www.owens.edu/disability/>, or stop by College Hall 124.

Tutoring Services: Owens Community College offers academic tutoring and assistance in a variety of subjects including: accounting, computing, economics, mathematics, science, and writing. For more information go to: <https://www.owens.edu/successcenters/>.

Counseling Services: Counseling Services provides assistance to students experiencing personal, educational, interpersonal/relationship, family, social, or psychological difficulties. If you feel you may benefit from this service, please contact them at counselingservices@owens.edu. More information is at <https://www.owens.edu/counseling/>.

Campus and Community Connections: The Center for Campus and Community Connections (College Hall 151) is a walk-in office created to provide retention support through resource stability initiatives and community connections. Go here for more information: <https://www.owens.edu/connection/> or contact connections@owens.edu

Owens Library: The Owens Library offers two locations (Toledo and Findlay) as well as online resources. For more information visit <https://www.owens.edu/library/>.

Students can find more information on campus resources, student support, student life, and security at this [link](#).

General Information

Student Code of Conduct: All students are expected to follow Owens Community College's [Student Code of Conduct](#), which includes academic honesty, encompassing plagiarism. See the [Board Policy](#) for more information.

Anti-Discrimination and Harassment & Title IX/Sexual Misconduct: All students, faculty,

and staff are expected to follow Owens Community College's [Anti-Discrimination and Harassment Policy](#) and the College's [Title IX Policy](#)/Sexual Misconduct Procedures and Guidelines. The College strictly prohibits and will not tolerate harassment, discrimination, intimidation, or hostile/offensive working or learning environments.

Religious Accommodations: A student seeking an accommodation for an absence permitted under Ohio's Testing Your Faith Act must provide the instructor with a written email notice with the specific dates for an absence, and must do so not later than fourteen (14) days after the first day of instruction. Alternative accommodations are not retroactive, and no academic penalty will be imposed for an absence under the policy*. The request for an alternative accommodation will be kept confidential. Students with questions about a religious accommodation under Ohio's Testing your Faith Act may contact the College's Office of Academic Affairs: provost@owens.edu. The policy may be found on the Owens website: [3358:11-2-63 Accommodation](#) for a Student Absence for the Observance of Religious Beliefs and Practices Policy

Document Collection: Throughout the semester, your instructors may ask for a variety of assignments including tests and/or quizzes for student learning of institutional general education competencies or program assessment. Please save all your class materials until the end of the semester.

Classroom Admittance: OCC classes shall only be attended by the officially registered OCC students or perspective students, instructor of record, guest lecturer, or substitute. Visitors are not permitted to be in the classroom and should not be invited to attend or participate in the class. See [FERPA](#) regulations for more information.

Use of AI Tools: This course requires you to complete various assignments that assess your understanding and application of the course content. You are expected to do your own work and cite any sources you use properly. You are not allowed to use any artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, to complete any part of your assignments. Any attempt to use these tools will be considered academic misconduct and will be dealt with according to the university's academic integrity policy. Students are expected to complete all work independently and without the assistance of AI-generated content. If you have any questions about what constitutes acceptable use of AI tools, please consult with the instructor *before* submitting your work.

The instructor reserves the right to amend this syllabus as necessary and will communicate amendments to students in the course. It is the responsibility of the student to regularly check emails and announcements for changes.