

CHEM 3719L - Organic Chemistry 1 Laboratory

Summer 2026 Syllabus, Section 01, CRN 30862,

Credit hours: 1

Instructor

Shiva Moaven

Professional Qualifications:

Postdoctoral Scholar, The Ohio State University

Postdoctoral Scholar, University of Oregon

Ph.D., Chemistry, Texas Tech University

Assistant Professor

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Preferred Contact Method: email

Communication Expectations:

Typical respond to emails is within 48 hours.

How to Refer to me:

Dr. Moaven

Course Description

3719L. Organic Chemistry 1 Laboratory. Typical techniques, preparations, and procedures of analysis of organic compounds. Three hours lab. Prereq.: "C" or better in CHEM 1516 and "C" or better in CHEM 1516L. Coreq.: CHEM 3719. 1 s.h.

As in General Chemistry, you will be studying the physical characteristics of compounds and their reactions to form new materials, however in Organic Chemistry we focus on compounds containing carbon. Your lab section will meet twice a week (*for more details see the schedule please*) in Room 5037 Ward Beecher Hall with your instructor.

Course Readings

Group	Title	Author	ISBN
Optional	https://chem.libretexts.org/Bookshelves/Organic_Chemistry/Organic_Chemistry_Lab_Techniques_		

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Links to important resources will be available on BlackBoard.

These are the crucial items students must have during their meetings in class/lab:

- A knee-length (non-paper) lab coat, OSHA approved eye protection. Gear must be worn **at all times** in the lab. Lab gloves will be provided.
- You must have a **YSU email address** to have access to BlackBoard and Office365 for writing reports.
- A reliable computer to install different programs (e.g. ChemDraw; Microsoft Office Suit), and access online resources.
- A lab notebook in which to record data for each chemical and reaction encountered during the course; this could be a simple bound English composition book. The book must be **hardbound**, i.e. **no spiralbound books**.

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Schedule of Topics and Assignments

Day	Date	Reading(s)	Proposed Topic	Due/To Prepare for Class
Mon	5/11	No meeting		
Wed	5/13	Introduction, Safety, Orientation	Meet your instructor; Learn about Room 5037 Organic Lab environment; Review course expectations	Online Safety Quiz (10 pts)
Fri	5/15	Finding Chemical Data and Molecular Modeling	Use of Molview and ChemSpider for finding reliable chemical data and compound properties from online databases	Blackboard upload as PDF (10 pts)
Mon	5/18	No meeting		
Wed	5/20	Measurement (Prelab Reading)	Safe transfer of organic liquids and solids, the use of balances, glassware, pipettes, vacuum filtration	Blackboard upload as PDF (10 pts)
Fri	5/22	Solubility & Miscibility (Prelab Reading)	Water bath for heating/evaporation of liquids, gravity filtration for removing impurities from organic solutions	Blackboard upload as PDF (10 pts)
Mon	5/25	Memorial Day		
Wed	5/27	Recrystallization (Prelab Reading)	Choosing an appropriate solvent for recrystallizing, purifying solids from hot solvent; filtration & melting point	Blackboard upload as PDF (10 pts)
Fri	5/29	Stereochemistry (Prelab Reading)	Drawing and comparison of stereoisomers in ChemDraw/3D; conformational analysis of isomeric molecules using Chem3D	Blackboard upload as PDF (10 pts)
Mon	6/1	No meeting		
Wed	6/3	Extraction & TLC (Prelab Reading)	Use of separatory funnel, washing and drying of organic solutions, evaporation, Thin Layer Chromatography	Blackboard upload as PDF (10 pts)
Fri	6/5	Distillation (Prelab Reading)	Separation and purification of organic liquids by their boiling point; identification of unknowns in a mixture	Blackboard upload as PDF (10 pts)
Mon	6/8	No meeting		
Wed	6/10	Substitution 1 (Prelab Reading)	Preparation of an organic halide from an alcohol through a substitution pathway; reaction is run twice to improve yield	Blackboard upload as PDF (10 pts)
Fri	6/12	Substitution 2 (Prelab Reading)	Use of distillation to purify liquid substitution product from the previous session; repeated on both samples to improve yield	Blackboard + Full report upload (5 + 10 pts)
Mon	6/15	Elimination 1 (Prelab Reading)	Conversion of an alcohol into alkene through acid-catalyzed elimination; application of Le Chatelier's principle in synthesis	Blackboard upload as PDF (10 pts)
Wed	6/17	Elimination 2 (Prelab Reading)	The use of distillation to purify the liquid substitution product from previous week; tests on product sample to prove an alkene formed	Blackboard + Full report upload (5 + 10 pts)
Fri	6/19	Juneteenth Holiday		
Mon	6/22	Addition (Prelab Reading)	Preparation of a solid halogenated organic product through electrophilic addition of bromine to an electron-deficient alkene	Blackboard upload as PDF (10 pts)

Wed 6/24 Lab Final

Short online test on lab basics covered
during the semester

Blackboard (10 pts)

Fri 6/26 No meeting

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