

Virginia Western Community College

CHM 246

Organic Chemistry Laboratory II

Prerequisites

CHM 241 and CHM 245

Corequisites

CHM 242

Course Description

Includes qualitative organic analysis. Offered in the spring semester.

Semester Credits: 2

Lecture Hours: 1

Laboratory Hours: 3

Required Materials

Textbook:

Experimental Organic Chemistry: A Miniscale and Microscale Approach. Gilbert, et al. 5th edition. Cengage Publishing. ISBN: 9781439049143

Course Outcomes

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

- Pursue basic procedures and techniques employed in modern organic chemistry laboratories.
- Develop skills in methods of preparation, purification, and identification of organic compounds using infrared spectroscopy.
- Visualize the practical application of the reactions presented in CHM 241/242.
- Perform qualitative organic analysis for separating and identifying unknown organic mixtures using learned methods.

Topical Description

<u>Exp. #</u>	<u>Reading Assignments</u>	<u>Experiments</u>
1	Organometallic Chemistry (Sect. 19.1-19.2; pages 639-643) (Sect. 19.3-19.4; pages 649-651)	A. Preparation of Grignard Reagents (Pages 643-645) C. Preparation of Triphenylmethanol (pages 652-653)
2	Electrophilic Aromatic Substitution (Sect. 15.1; pages 491-492) Nitration of Bromobenzene (page 513-515) Exercises: 3, 4, 5, 17 (page 519-520)	A. Nitration of Bromobenzene (Pages 515-517)
3	Relative Rates Electrophilic Aromatic Substitution	A. Relative Rates of Electrophilic Aromatic Bromination (pages 525-527)

Notes to Instructors

1. Approved safety goggles are still required to be worn in the laboratory. The laboratory working area also includes the weighing room and the sinks. ***NO GOGGLES—NO LAB.***
2. Each lab report is grade on a scale from 0 – 100. Pre-lab questions are worth approximate 10 percent and post-lab questions, if any, are worth approximately 15 percent of each lab grade. Lab reports are due one week from the date of completion. These reports must be typed on 8 ½ x 11 letter-size paper. The format for writing lab reports will be explained in the class before each lab. Five points will be taken off per school day for each late lab report.
3. The final grade for CHM 245 will be based on the following:

Lab Reports	=	75%
Final Exam	=	25%

Grading Scale		
100% - 90%	=	A
89.9% - 80%	=	B
79.9% - 70%	=	C
69.9% - 60%	=	D
Less than 60%	=	F