

CHEM 305
Chemical Hygiene and Safety
Fall 2013
Section 001

Instructor: Dr. Snyder

Lecture: T 9:30-10:45, Owen Hall G08

Office: 109B Sims

E-mail: snyderk@winthrop.edu

Office Hours: M 11:00-12:00; W 1:00-2:00 or by appointment

Course Credit Hours: 1

Optional Textbooks:

- ❖ *Laboratory Safety for Chemistry Student*, Hill and Finster; ISBN 978-0-470-34428-6

Student Learning Outcomes:

- ❖ Students will learn the importance and necessity of proper laboratory safety procedures; become familiar with the potential hazards associated with various classes of hazardous chemicals and the proper way in which to store and handle such chemicals; learn how to obtain, read, and understand information about hazardous chemicals; become familiar with the various methods available to minimize exposures and reduce the risks associated with working with chemicals.

University-Level Competencies: CHEM 305 will contribute to Competency 2 of the University-Level Competencies.

University Level Competency 2: Winthrop graduates are personally and socially responsible.

This entire course focuses on the prudent practices in chemical hygiene and safety. Students will learn the proper methods of protecting themselves, others in the laboratory and the environment from toxic substances.

Course Outline:

- ❖ What makes a chemical hazardous
- ❖ Routes of entry
- ❖ Precautionary Labels
- ❖ Material Safety Data Sheets
- ❖ Personal Protective Equipment
- ❖ Handling Laboratory Equipment Safely
- ❖ Exposure Limits
- ❖ Safe Handling, Storage, and Disposal of Chemicals
- ❖ Emergency Equipment
- ❖ Emergency and Medical Procedures

Exams and Grading

- ❖ There will be 2 exams in this course, a mid-term and a final exam. Both exams will be worth 150 points. The final exam will cover the entire course.
- ❖ Approximately four to five of the course lectures will be online assignments. You will not have to attend class on these weeks, but instead will have an online assignment. We will use Blackboard for all online assignments. Each assignment is due one week after it is posted in Blackboard. The requirements of each assignment will be stated at the time the assignment is posted in Blackboard. The point value of each assignment will vary, but each assignment will be worth between 20 and 40 points. The assignments will either be structured as an online test or as a written assignment that you will type and submit through Blackboard. Late assignments will be accepted with a 10% penalty per day it is late. If the number of online assignments is less than five, the total points for the semester will be adjusted accordingly. If you submit your homework by uploading a file, it must be saved in the following format: **last name assignment #.docx**.
- ❖ You have one week from the time a graded assignment is returned to question the way it was graded. After a week, I will not change a grade.

❖ You should carefully read the Winthrop University Student Conduct Code printed in the Winthrop University Student Handbook. As noted in the Student Conduct Code: Responsibility for good conduct rests with students as adult individuals. This policy on student academic misconduct is outlined in the Student Conduct Code Academic Misconduct Policy in the online *Student Handbook*
<http://www2.winthrop.edu/studentaffairs/handbook/StudentHandbook.pdf>

❖ Letter grades will be assigned as follows: A 90-100%, B 80-89%, C 70-79%, D 60-69%, F <59%

❖ Total Possible Points:

Midterm Exam	200 points
Final Exam	200 points
Online Assignments	150 points (max)
<hr/> Total Points*	<hr/> 550 points

*The total number of points for the course may be lower than 550 depending on the number of online assignments.

Blackboard: We will be using Blackboard this semester. Online assignments will be posted in Blackboard and announcements may be made through Blackboard. Lectures will be PowerPoint presentations and the PowerPoint presentations will be posted in Blackboard. The web address to log into Blackboard is ***online.winthrop.edu***. **Login instructions and Blackboard tutorials can be found at**
http://www2.winthrop.edu/webct/Blackboard_Training_Tutorials.html

Grades: I will not discuss grades through e-mail. If you have a question about your grade, please stop by my office.

Exams: You may need a calculator for exams. Cell phones and pagers are strictly prohibited during exams. You cannot use a cell phone as a calculator during exams and quizzes.

Course Withdraw: October 18th is the last day to withdraw from a full fall semester course with an automatic N grade issued. *Students may not withdraw from a course after this date without documented extenuating circumstances* as determined by the University.

Communication: If you have any questions, please stop by and see me during office hours. If these hours are not convenient, see me in class or e-mail me to set up an appointment.

Attendance: You are expected to attend all class meetings. You are responsible for all announcements made in class. Absence or lateness does not excuse you from this responsibility.

Students with Disabilities: Winthrop University is dedicated to providing access to education. If you have a disability and require specific accommodations to complete this course, contact the Office of Disability Services (ODS) at 323-3290. Once you have your official notice of accommodations from the Office of Disability Services, please inform me as early as possible in the semester.

This syllabus will be changed as necessary.

This is a tentative schedule.

Week	Date	Topic	Reading Assignment
1	8/20	Introduction/What makes a chemical hazardous Routes of entry Precautionary Labels	1.3.3 (1-37) 3.1.1 (3-3) 3.1.2 (3-11)
2	8/27	NO CLASS-ONLINE ASSIGNMENT Protective Equipment	7.1.2-7.2.3 (pp 7-11 to 7-50)
3	9/3	Protective Equipment	7.1.2-7.2.3 (pp 7-11 to 7-50)
4	9/10	NO CLASS-ONLINE ASSIGNMENT Toxicology Exposure Limits	4.1.1-4.2.1 (pp. 4-1 to 4-30) 6.2.2 (6-23)
5	9/17	Sources of Information GHS	4.1.1-4.2.1 (pp. 4-1 to 4-30) 3.2.1, 6.2.1
6	9/24	NO CLASS-ONLINE ASSIGNMENT Sources of Information	3.1.3 -3.3.1 (pp. 3-19 to 3-50)
7	10/1	Handling Laboratory Equipment Safely	5.3.1 (5-49) (Compressed Gas Cylinders) 5.3.5 (5-87) (Electrical hazards) 5.3.4 (5-79)
8	10/8	Midterm	
9	10/15	No Class- Fall Break	
10	10/22	Corrosive and Flammable Chemicals	5.1.1-5.2.3 (pp. 5-3 to 5-47) 8.2.1 (8-9)
11	10/29	Biosafety	4.3.2-4.3.3 (4-47); 7.3.4 (7-73)
12	11/12	Peroxides, Reactives, and Carcinogens	5.3.2-5.3.3 (pp. 5-61 to 5-77) 4.3.1 (4-31)
13	11/5	NO CLASS-ONLINE ASSIGNMENT Biosafety and Radiation/Laser Safety	4.3.2-4.3.3 (4-47); 7.3.4 (7-73) 7.3.2 (7-59) 7.3.3 (7-67)
14	11/19	Chemical Waste Chapter 2	8.1.1, Ch. 2
15	11/26	NO CLASS-ONLINE ASSIGNMENT Chapter 2	8.1.1 3.2.1
	Final	Wednesday, December 4 11:30 in Owen Hall G08	