CHEM 108 – General Chemistry Lab Recitation

Section 005

Fall 2022

Instructor:	**Mrs. Kristen Kull**
Lab Meeting Time:	Thursday 2:00-4:50 pm Sims 103
Prelab:	Thursday 2:00 Sims 105
Recitation:	Monday 5:00 – 5:50 pm Zoom (reference Blackboard for updates)
Course Credit Hours:	2
E-mail:	kullk@winthrop.edu
Office:	Sims 107B
Office Hours:	Virtual BB Wednesday 1:30-3:00; Thursday 10:00-11:00
	Physical TBD DUE to COVID; meetings will not occur in my office
	By appointment; send request via BB email with phone number and 3 dates/times available to meet; messages sent via WU email are not guaranteed a response

Course Pre-requisite(s): You must successfully complete CHEM 105.

Required Books:

- Textbook: **Chemistry: An Atoms-Focused Approach** by Gilbert, Kirss and Foster, 3rd edition. The library has a copy of this textbook on reserve at the Textbook Reserve Desk.
- *Lab Notebook: Carbonless, dual page (spiral bound preferred)*

Course Goals:

- In this lab recitation course, we will review the necessary information needed to successfully complete each of the experiments scheduled in CHEM 108. Many of the laboratory skills learned in CHEM 108 will be used in upper level chemistry labs.
- Develop problem-solving and critical thinking skills.
- Demonstrate an understanding of the fundamental principles presented in each of the laboratory experiments conducted in CHEM 108.

Course Outline:

- Physical properties, analytical balances, typical glassware, volumetric glassware, data analysis, graphing using Excel
- Qualitative solubility, stoichiometry, volumetric glassware, burets, pH meters, writing chemical equations
- Calorimetry, heats of reactions, endothermic/exothermic reactions, writing chemical equations, Excel
- Introduction to organic chemistry, identifying an unknown, functional group testing, infrared spectroscopy, NMR
- Visible spectroscopy, Beer's Law, calibration curves, graphing with Excel

Exams and Grading:

1. There will be two exams in recitation, Exam 1 and Exam 2. **No make-up exams will be given**. If you miss an exam with a validated excuse, your other exam grade will be scaled. Tentative exam dates are noted below.
2. **The recitation exam 2 will be cumulative and will be given during the last week of classes. The class will also meet during finals time to complete the skills exam, a culmination of techniques utilized in the laboratory.**
3. Your total grade in lab recitation will be factored into your final CHEM 108 grade. Recitation will account for 20% of your final lab grade. See the CHEM 108 GRADING webpage for letter grade assignments.

4. You have one week from the time a graded assignment is returned to question its grading. After a week, I will not change any grade.
5. 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)http://www2.winthrop.edu/studentaffairs/handbook/StudentHandbook.pdf

Total Possible Points

Recitation Exams	120 pts (20%)
Laboratory grade	480 pts (80%)
Total points Chem 108	600 pts

Preparation for the lesson: Resource material comes for the lab comes from the Cooperative Project instructions found on Blackboard or on the Chem108 web page AND the associated lab instruction from the course Lab Manual. Your Lab Notebook is a duplicate page resource. **It will be available for your reference on any graded assignment.** I strongly recommend taking all of your recitation notes in this. Calculations for assignments should also be completed here. If buying or using a used Notebook, show it to me for signature and page recording.

Exams: You will 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.

Course Withdraw: Friday, October 22nd is the last day to withdraw from a full 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 contact me and/or see me during office hours. If these hours are not convenient, see me in class or e-mail me to set up an appointment. Due to increased message traffic in my kullk@winthrop.edu account, communication will come through the Blackboard e-mail system. I will send messages and provide updates via the Announcements, Discussion Boards, and Bb e-mail system. You are responsible for checking these at least once a day. This manner of operation ensures a record of our communication. Make sure Bb origin messages are not blocked in your Winthrop account.

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

Homework: Each reading assignment and assigned homework problem will give you background instruction for the techniques and calculations used in the Cooperative Project. End of chapter homework problems from the textbook will not be collected or graded but will be good practice for preparing for exams. They may be used as a template for quiz and test questions.

E-mail: It is important to check your e-mail (Blackboard and WU) regularly. If you registered for the course late, you will need to manually subscribe to the listserv, the class master enrollment list for messages. If you drop the course, you will need to unsubscribe to the list or you will continue to receive all e-mails I send. You can find directions at http://www.winthrop.edu/acc/classlist.htm

Students with Disabilities/Need of Accommodations for Access: Winthrop University is committed to providing access to education. If you have a condition which may adversely impact your ability to access academics and/or campus life, and you require specific accommodations to complete this course, contact the Office of Accessibility (OA) at 803-323-3290, or, accessibility@winthrop.edu. Please inform me as early as possible once you have your official notice of accommodations from the Office of Accessibility.

COVID-19 Statement: During this pandemic period each student is expected to act in the best interest of the WU community by behaving responsibly to limit the spread of the COVID-19 virus. All students, faculty, and staff must wear masks inside buildings and classrooms, unless alone in a private office. All members of the campus community must follow campus guidance on masking. Please do not attend class if you have fever or any signs of the COVID virus; do not attend class if your roommate or someone you have close contact with acquires the virus and be respectful of others' desire to remain COVID-free. Use the Patient Portal COVID-19 Health Tracker daily. Students who violate WU guidelines will be asked to comply. Continued failure to comply may result in referral to the Dean of Students Office as a student conduct violation.

COVID-Related Absence: Students should contact Health Services regarding a positive test, close contact, or enhanced COVID-like symptoms. Any student who has either tested positive, has COVID-like symptoms, or has close contact with someone who has COVID, must contact Health Services. Students should log in to the Patient Portal to schedule a **TELEPHONE TRIAGE** Appointment w/ **COVID** as the reason and upload the positive test result if applicable. Health Services will communicate with the student on what steps to take next, and if need be, the Dean of Students Office will get absence verification for required isolation and quarantine. Students who verify their absences through the Dean of Students Office often minimize any academic impact caused by missed class time. Health Services will only provide dates of absence, not medical information. Please note, residential students who test positive should also follow their personal COVID Quarantine and Isolation Plan.

Syllabus: This is a tentative schedule. Modifications and mistake correction will be announced and made as necessary.

Date	Exams	Prelab Topics	Reading Assignments and Homework Problems (End of Chapter Exercises)
8/29		Lab, Recitation Introduction Quantitative and Qualitative Analysis, Density, Units of Measurement, Making Measurements: Precision, Accuracy, Experimental Error, Standard Deviation, Significant Figures	**Chemistry: An Atoms-Focused Approach:** ~Read Section 1-4, Density; Sections 1-8 and 1-9 ~Complete the following problems: • End of Chapter Problems 40, 44, 48, 54, 60, 69, 71 • End of Chapter Problems 16, 30, 32, 59 (instead of calculating percent error, calculate the standard deviation), 61, 64 A sample of an unknown metal was placed in a graduated cylinder containing water. The mass of the sample was 23.5 g and the water level rose from 47.5 ml to 52.2 ml. Calculate the density of this unknown metal.
			Chemistry: An Atoms-Focused Approach: ~ Ions, Ionic Compounds: Read pages 43, 50-53, 139-142 ~Reactions: Read Section 8.5 including Sample Exercise 8.6. Complete Practice Exercise on page 328 and End of Chapter Problems 8.65, 8.66
9/12		Ions, Ionic compounds, Precipitation reactions, Solubility rules, Qualitative analysis	***Chemistry: An Atoms-Focused Approach:*** ~ Molarity: Read Section 8.1 (312-315); Complete End of Chapter Problems 8.11a; 8.14a,b;15a,b ~Acids and Bases: Read Section 8.4 (320-326) including Sample Exercise on page 324; Complete End of Chapter Problems 8.51b, 8.53b ~Reaction Stoichiometry: Read Section 8.5, (326-330); Read Section 8.5 including Sample Exercise 8.7 and 8.8, complete Practice Exercises on page 330 and 331 and End of Chapter Problems 8.68, 8.69, 9.72
9/19, 9/26		Writing chemical equations for precipitation reactions (complete balanced equations, complete ionic equations, and net ionic equations), Acid/Base reactions, Molarity, Dilutions, Using burets, Using pH meters Stoichiometry	***Chemistry: An Atoms-Focused Approach:*** ~ Calorimetry: Read Section 9.5, (382-384) including sample Exercise (384); Complete Practice Exercise on page 384 and End of Chapter Problems 9.65, 9.66 ~Precipitation Reactions: Read Section 8.5 ~ Acids and Bases: Read Section 8.4 ~Oxidation-Reduction Reactions: Read Section 8.6, (332-338); Complete End of Chapter Problems 8.83, 8.89
10/3		Calorimetry, Heats of Reactions Precipitation Reactions, Acid/Base Reactions, Oxidation-Reduction Reactions	
10/10	**EXAM 1**		
10/17	**no class**	**Fall Break**	
10/24, 10/31		Organic Nomenclature and Functional Groups NMR and IR	
11/7, 11/14		Analysis of Cola	
11/21	**No class**	Thanksgiving	
11/28		CPII Oral Presentation guidelines	
12/5	**EXAM 2**		