



Course Syllabus: General Chemistry CHEM 1241 Lab Spring 2024

Contact Information

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Course Description

CHEM 1241 is a second semester chemistry lab course to satisfy lab science requirements for BS majors and provide entry level information for students wishing to pursue other chemistry courses. The content covers basic chemistry concepts, calculations, and background for future courses such as organic, analytical, environmental, and biochemistry. This is a survey course. Highlights and introductions to various specific and applied concepts will be covered in several areas relating to different aspects chemistry. This is the supplementary lab that practices lab techniques and teaches the students about accuracy, measurements, common lab equipment and techniques.

Textbook & Instructional Materials

Chemistry: Laboratory Manual for Chemistry 1241, Fulton et al
D2L: platform for all weekly quizzes and where all grades can be viewed

Study Hours and Tutoring Assistance

Professors have office hours for the purpose of asking questions, working problems, and clarifying information – use this Personal tutors can be obtained but for an hourly rate (please see office assistant for the current list). TASP has free tutoring that is available 20+ hours a week.

Youtube, chemreview, Khan Academy, and Quizlet are all very good options to look up videos, examples, demonstrations, extra problems, and practice problems.

Student Handbook

Refer to: Student Handbook-2021-22

Academic Misconduct Policy & Procedures

Similar answers on homework, data sheets/reports, or quizzes will have one written warning. Zeros will be given to every assignment afterwards where cheating is done. Blatant and obvious copying (exact odd/wrong answers, cut and paste) will receive an automatic zero the first and every time. Scores obtained by cheating will NOT be ones that are dropped in any category. Phones out/sounding during exam, cheating aids, or staring eyes during exams will result in a zero on the exam.

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individual's to whom credit is given). Additional guidelines on procedures in these matters may be found in the Office of Student Conduct.

[Office of Student Conduct](#)

Grading

Grade distribution:

Table 1:

Assignments	Percent
reports	50
Prelabs	10
quizzes	10
Class participation	10
midterm	10
final	10

Table 2: Total points for final grade.

Grade	Percent
A	89
B	79
C	69
D	59
F	Less than 59

Homework

Before you may enter lab, you must read and sign the safety sheet online and an academic integrity policy. You must also watch the safety film and take a quiz. You are not allowed to do experiments until this is done. There will be a prelab homework assignment due at the beginning of lab

each week. Your data sheet is due at the beginning of lab the week after the experiment.

Quizzes

Quizzes will be given for each lab (D2L). It will be due before lab begins. *See schedule.

Exams

There will be a midterm (experiments 11 – 15) and a final (experiments 16 – 20). More information will be given in the days prior to the exams.**NOTE day and time of midterm and final.

Extra Credit

Extra credit is offered for each lab. It is due and written in a separate section on the report to follow the sources of error section. It must be an industrial/commercial application (large scale) of either the piece of equipment/instrument used in the experiment or the technique. This does not include equipment that is in your drawers or the community glassware. For all 5 points, a. the application must be explained (equipment must have a schematic and purpose explained; a reaction must be given if relevant; or the technique must be explained; b. a cite must be given; and c. originality or relevance to other applied disciplines is preferred.

Late Work/Make Up Work

Quizzes have a hard deadline in D2L, no exceptions. Prelabs and data sheets may be turned in up to one week late for less credit. One drop is placed in each section to cover any absences whether university excused or not.

Important Dates

Refer to: [Drops, Withdrawals & Void](#)

Desire-to-Learn (D2L)

Moderate use of the MSU D2L program is a part of this course. Each student is expected to be familiar with this program as it provides a primary source of communication regarding assignments, examination materials, and general course information. You can log into [D2L](#) through the MSU Homepage. If you experience difficulties, please contact the technicians listed for the program or contact your instructor.

Attendance

Students are expected to attend all lab days in which they are enrolled. Although in general students are graded on intellectual effort and performance rather than attendance, absences will lower the student's grade because vital information is not gained. Excessive, non-university excused absences or missing 3 labs will result in an instructor drop. Missing this amount of material results in the

inability to pass the course. The instructor must give the student a verbal or written warning prior to being dropped from the class.

Online Computer Requirements

Taking an online class requires you to have access to a computer (with Internet access) to complete and upload your assignments. It is your responsibility to have (or have access to) a working computer in this class. ***Assignments and tests are due by the due date, and personal computer technical difficulties will not be considered reason for the instructor to allow students extra time to submit assignments, tests, or discussion postings.*** Computers are available on campus in various areas of the buildings as well as the Academic Success Center. **Your computer being down is not an excuse for missing a deadline!!** There are many places to access your class! Our online classes can be accessed from any computer in the world which is connected to the internet. Contact your instructor immediately upon having computer trouble. If you have technical difficulties in the course, there is also a student helpdesk available to you. The college cannot work directly on student computers due to both liability and resource limitations however they are able to help you get connected to our online services. For help, log into [D2L](#). * **see requirements in your Content→ Modules section of D2L**

Services for Students with Disabilities

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make application for such assistance through Disability Support Services, located in the Clark Student Center, Room 168, (940) 397-4140. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to [Disability Support Services](#).

College Policies

Campus Carry Rules/Policies

Refer to: [Campus Carry Rules and Policies](#)

Senate Bill 11 Handgun Policy -Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from licensed concealed carry are appropriately marked, in accordance with state law (Penal Code 30.06 signage). Please note, open carry of handguns, whether licensed or not, and the carrying of all other firearms (rifles, shotguns, etc.), whether open or concealed, are prohibited on campus. For more information regarding campus carry, please refer to the University's webpage at: Campus Carry.

Smoking/Tobacco Policy

College policy strictly prohibits the use of tobacco products in any building owned or operated by WATC. Adult students may smoke only in the outside designated-smoking areas at each location.

Alcohol and Drug Policy

To comply with the Drug Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibits the unlawful possession, use or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state and federal law for any offenses involving illicit drugs on University property or at University-sponsored activities.

Grade Appeal Process

Update as needed. Students who wish to appeal a grade should consult the Midwestern State University [Undergraduate Catalog](#)

Notice

Changes in the course syllabus, procedure, assignments, and schedule may be made at the discretion of the instructor.

Course Schedule

Dates	Activities/Assignments/Exams
Jan 16-18	Safety/intro lecture
Jan 23-25	11 Qualitative Analysis Group 1
Jan 30-Feb 1	12 Qualitative Analysis Group 2
Feb 6-8	13 Timed Unknown
Feb 13-15	14 Reaction Rates
Feb 20-22	15 Copper Complexes
Feb 29	MIDTERM 6PM
Mar 5-7	16 Equilibrium Constant
Mar 12-14	SPRING BREAK
Mar 19-21	17 Hardness of Water
Mar 26-28	NO LAB
Apr 2-4	18 Polymers
Apr 9-11	Project work
Apr 16-18	19 Acid/Base Titration
Apr 23-25	20 Electrochemistry
May 2	FINAL 6PM

See submission rules on the schedule.

- Experiments 11 – 13: Qualitative analysis labs will strengthen lab techniques and skills while learning to identify unknown ions in solution by manipulating pH and solubility. Exp 13 will be a timed lab to assess multi-tasking and procedural skills.
- Experiment 14: The rates of reaction lab will be a cross-section of material related to the kinetics chapter of the lecture text. The initial rate method, calculation of k , and the Arrhenius equation will be evaluated for a given reaction. Several factors that affect rate will also be evaluated.
- Experiment 15: Using copper complexes with different ligands, strengths and characteristics of several complexes will be ranked and evaluated.
- Experiment 16: An iron complex at varying concentrations will be evaluated using spectrophotometry to calculate an equilibrium constant.
- Experiment 17: The water hardness lab will be an environmental lab where the titrant will be standardized and used to determine the ppm of an unknown water sample.
- Experiment 18: Various recyclable polymers will be evaluated to determine physical and chemical characteristics for the purpose of understanding recycling of polymers and how polymers are identified and separated. These observations will then be used to identify an unknown sample.
- Experiment 19: The titration method will be used to standardize a basic titrant for use to identify the equivalent mass of an unknown acid. Several indicators will also be evaluated for color and estimated pH.
- Experiment 20: Electrochemistry will be studied by setting up and using cathodes to evaluate oxidation and reduction reactions. Using this same method, copper and a copper solution will be used to gather data to calculate Avogadro's number and Faraday's constant.
- Oral presentation: Towards the end of the semester, an oral presentation will be given. Two partners will be expected to evaluate and present a peer-reviewed journal article to the class according to the rubric given in class after midterm