Course Syllabus

Chemistry 112 – Sections 11-15 Syllabus – Fall 2025

Class Information

- Days – TR
- Time – 9:30 - 10:45 am
- Room – FB 101
- Required Text:
  Chemistry, 15th Edition, Chang and Overby
  - This text is available in the local bookstores and is the same text used for Chem 111 in recent terms
  - We will cover chapters 11 - 18 this semester.

Instructor – Paul S. Coan

- Office – FB 305
- e-mail – **pcoan@bsu.edu (mailto:pcoan@bsu.edu)**
- Phone – (765) 285-2196
- Office hours –
  - Tuesday 1:30 - 2:30 pm
  - Wednesday 11:00 am - 12:00 pm
  - Thursday 11:00 am - 12:00 pm
  - or most any other time that I am in my office.
  - **You do not need an appointment, please feel free to stop by.**
  - Virtual meetings are also available. Please email me to arrange a virtual meeting.

University Statement

We are committed to ensuring that all members of the community are welcome, through valuing the various experiences and worldviews represented at Ball State and among those we serve. We promote a culture of respect and civil discourse. If you need course adaptations or accommodations because of a disability, please contact the instructor of record as soon as possible. Ball State's Disability Services Office coordinates services for students with disabilities; documentation of a disability needs to be on file in that office before any accommodations can be provided. Disability Services can be contacted at 765-285-5293 or ***dsd@bsu.edu (mailto:dsd@bsu.edu)*** *.*

Freedom of Expression

In this course, we are committed to fostering a learning environment that values intellectual diversity, encourages free expression, and promotes open inquiry. As members of the Ball State Community, we treat each person in the Ball State community with civility, courtesy, compassion, and dignity and respect and learn from differences in people, ideas, and opinions. Please review Ball State University's Statement on Freedom of Expression, the resources on Ball State's ***Freedom of Expression (https://www.bsu.edu/about/freedom-of-expression/faculty-toolkit)*** *webpage, and Ball State's* ***Beneficence Pledge (https://www.bsu.edu/about/beneficence)*** *.*

Description:

This course is a University Core Curriculum Tier 2 Natural Sciences domain course with a WISER+ T designation. The primary emphasis of this course is to provide an understanding of chemical principles and to help students assess the chemical basis of other disciplines.

Prerequisites

All students must have completed CHEM 111 **and** MATH 108 or MATH 110 or MATH 111 or MATH 112 or MATH 113 or MATH 114 or MATH 161 or MATH 162 or MATH 165 or MATH 166 or equivalent math placement scores.

If you struggled with the math in CHEM 111, you may wish to improve your math skills before taking this course

Calculator

If you use a calculator during exams and quizzes, it must be a variety of the TI-30X series.

Exams

Three exams will be given on the days indicted on the **schedule**. **ALL EXAMS WILL BE IN-PERSON IN FB 101.** The exams will count 100 points each. The final exam will be cumulative and count for 150 points. The three exams and the final exam will feature short answer questions. Calculators may not be shared. All other electronic devices are banned from the classroom.

NO MAKEUP EXAMS WILL BE GIVEN!!! If a student misses an exam, that student will receive the grade of zero for that exam. If the student promptly provides the instructor with a valid excuse (*e.g.* Physician's statement) for missing the exam, the final exam will count more toward the course grade for that student.

Quizzes

Five, 25 minute quizzes will be given on the the days indicated on the **schedule**. **ALL QUIZZES WILL BE IN-PERSON IN FB101.** Each will count for 25 points. Only the four highest quiz grades will count towards the final grade. Most of the quiz questions will be similar to the questions on the **homework** assignments. **NO MAKEUP QUIZZES WILL BE GIVEN!!!**

Homework Assignments

Since chemistry is a subject where doing is learning, we will employ an on-line homework system this semester. There will typically be two assignments due each week during the semester. The homework assignments will count for a total of 100 points.

In-Class Exercises

A portion of the class this semester will employ a "flipped classroom" model. So you will watch a video of the lecture material for that class BEFORE the class period and then you will complete an in-class exercise that covers that material in the class. I hope to have about one (1) such assignment per week. The in-class assignments will count for a total of 50 points. The lowest two (2) in-class assignments will be dropped.

Attendance

You are expected to attend class. Note that the material on the exams and quizzes will be heavily weighted in favor of the lecture material.

Academic Responsibility

Ball State University has a strict code covering bribery, cheating, lying, plagiarism, and misuse of a telephone information processing system. Any violation of this code can result in severe penalties including probation, suspension, or expulsion.

Infractions will not be tolerated in either the lecture or laboratory portions of this course. Note specifically that copying any information from laboratory sheets done by others is considered a major violation.

Teaching Majors

If you are a teaching major, or if you think you will ever decide to be a teaching major, then you should save the required assignments, exams, and laboratories (also known as artifacts) from this course for a teaching portfolio. For more information see https://www.bsu.edu/academics/collegesanddepartments/chemistry/academic-programs.

Grading System

Three (3) Exams @ 100 points	300 points
Final Exam	150 points
Total of top 4 quizzes @ 25 points	100 points
Laboratory Grade	100 points
On-line homework assignments	100 points
In-class assignments	50 points
Class Total	800 points

Grading Scale

A ≥ 90

90 > B+ ≥ 87

87 > B ≥ 80

80 > C+ ≥ 77

77 > C ≥ 70

70 > D+ ≥ 67

67 > D ≥ 60

60 > F

Exam Schedule

The exams will most likely be given on the following dates:

Exam 1	Tuesday	16 September 2025
Exam 2	Tuesday	14 October 2025
Exam 3	Tuesday	18 November 2025
Final Exam	Friday	12 December 2025

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Quiz Schedule

The five quizzes will most likely be given on the following dates:

Quiz 1	Tuesday	9 September 2025
Quiz 2	Tuesday	30 September 2025
Quiz 3	Tuesday	28 October 2025
Quiz 4	Tuesday	11 November 2025

Quiz 5 Tuesday 2 December 2025

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Problem Solving

The following are a series of steps that I usually go through when solving example problems on the board in class. The reason I go through this process is that some students in this class still have difficulty solving word problems. These steps provide a structured method for solving problems which may (or may not) help you with problem solving.

Five Steps to Problem Solving:

1. What are you looking for? THIS IS THE MOST IMPORTANT PART!!!
2. What information are you given?
3. Gather some equations that relate what you need and what you are given.
4. Use the equations to do some work.
5. The answer.

Laboratory:

- The first laboratory meeting will be on Friday 22 August 2025.
- Text: *Chem 112*, Cengage
- Supplies: Chemical splash safety goggles, lab coat, and a calculator (bring to lab).
- **Note: YOU MUST PARTICIPATE IN AND PASS (≥ 75%) THE LABORATORY TO PASS THE ENTIRE COURSE.**

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