CHEM 177 Syllabus

Course Information

CHEM 177 | *Summer 2024* | *Asynchronous Online*

Section 1

Department: Chemistry

Credit Hours: 4.0

Course Prerequisites: Course prerequisites/corequisites: MATH 140 or high school equivalent, and CHEM 50 or 1 year high school chemistry, and credit or enrollment in CHEM 177L. Chemistry and biochemistry majors may consider taking CHEM 201.

Laboratory: Chem 117L is administered separately from this course, so questions regarding issues for the lab need to go to Dr. Sara Pistolesi (the lab instructor) and your lab TA. In the summer, students who are not enrolled in the co-requisite laboratory will receive an incomplete in the lecture course until the co-requisite laboratory is completed.

Instructor Information

Name: Cristina Bonaccorsi

Email: chem177q@iastate.edu

Phone: email preferred

Office Address: Webex

Student (Office) Hours: TBD

Course Learning Objectives

Upon completing this course, students will be able to do the following:

1. **By completing the course, the students will be able to interpret** and **explain** the connection between symbolic representations (the microscopic level) and the amounts of substance (the macroscopic level) when given a qualitative or quantitative problem involving a chemical system. To achieve this goal, students will learn about atoms, bonding, and chemical reactions.
2. **By completing the course, the students will be able to assess, describe,** and ultimately **predict** the chemical and physical properties of elements and compounds (gaseous, liquid, and solid materials). To achieve this goal, students will learn about structure, bonding, and inter-molecular interactions.
3. **By completing the course, the students will be able to recognize** the importance of energy in chemical and physical processes and will **assess** and **describe** the feasibility and energetic implications of any process under specific conditions. Students will learn about energy and thermodynamics.

4. **By completing the course, the students will be able to** make connections between topics seen within this course as well as between chemistry and other disciplines such as physics, natural sciences, engineering. Students will be able to approach chemistry not just as a collection of isolated chemistry facts, but as a systemic discipline, one in which the study of the inner systems (e.g., the molecular perspective) allows to better understand most outer systems (e.g., engineering, medicine, environment, social contexts, etc.).

Course Format

Asynchronous online.

This course is entirely delivered online. This said, Dr. Bonaccorsi has office hours. Join via Webex (links on Canvas). Office hours are for asking questions about course policies and chemistry. If you have questions that are personal in nature, I encourage you to email chem177q@iastate.edu to set up an appointment.

Course Materials

Textbook and Homework System (OWL)

- Chemistry, 10th Edition - by Zumdahl, Zumdahl, and DeCoste, Cengage.
- OWLv2 online homework.

Provided to you via the **Immediate Access (https://www.isubookstore.com/immediate-access-students)** program.

For detailed information and instructions, visit **Required Textbook, OWL (homework), Immediate Access (https://canvas.iastate.edu/courses/109290/pages/required-textbook-owl-homework-immediate-access)** .

Calculator

A scientific calculator with basic functions including logarithms and exponential functions. Scientific/ programmable calculator are permitted.

Course Technologies

1. A reliable Internet connection.
2. Access to Iowa State University computer system and your Learning Management System (Canvas etc.).
3. Access to a computer with a microphone and audio capability.

Learning Activities & Assessments

Homework

OWL will be used for homework assignments. You must purchase access to OWL to receive credit on homework; to login, follow the instructions listed above under Required Textbook and Supplies. See Schedule and go to Canvas for exact dates. ***Homework is designed to help you master a topic before we move on to the next topic; thus, you must complete the work by the scheduled deadline.*** There are no exceptions to this policy and no extensions or make-ups for OWL assignments will be granted. The settings on the homework are meant to be non-punitive, so you can get essentially all the points if you work them through with some patience. We readily acknowledge that the time you spend on the homework will probably be disproportionate to the points. The points are really there to nudge you to do them! The reward for doing the homework well will come from doing well on the exams.
Note that the "Mastery" homework assignments are the graded ones. They require you to get two problems right in a row on a given topic. You have 10 attempts on each problem and you are provided with guidance and hints.
There is a separate link to a large set of typical "end of chapter" homework questions for each module. These are entirely optional but are good practice for you.

Mini-Quizzes

These tests should be completed immediately after reading the corresponding parts in the textbook and notes and viewing the corresponding videos. They are a fundamental part of the learning process and will help you master the topics while you study them. See Schedule and go to Canvas for exact due dates. You must complete the work by the scheduled deadline. There are no exceptions to this policy and no extensions or make-ups for Mini Quizzes will be granted.
For each module, there are two 5-question Mini Quizzes, which are primarily meant as formative learning tools. You should take the first one after watching the first 2-3 videos and then the second at the end. The settings on these quizzes will include having two chances for each question, so it is expected that most students will score very well on these. You can look up the answers you might have missed in between your two chances.

Exams

There will be 3 hour-exams on Wednesday May 29, June 12, and June 26. A comprehensive, final exam will be on Friday, July 5. Each exam will be online on Canvas. The exam will be open from 8am to 9pm on the designated day. Once you open the test, you will have 70 minutes to complete it, except for the final, for which you will have 140 minutes. There are no make-up exams. If you have a valid, serious reason to miss an exam, you need to immediately contact the instructor. You will be asked to drop the course if you miss more than one exam. Information specific to each exam will be communicated via email and on Canvas.

Module Discussion Boards

There will be a discussion board for each group of three modules, on Canvas, monitored and graded, regarding a topic related to the three corresponding modules. Each student is required to reply to the prompt posted originally by the instructor and to a minimum of two other students' replies. Check the schedule on Canvas for the exact due dates. There are no exceptions to this policy and no extensions or make-ups for Module Discussions will be granted.

- Discussions are entirely for **extra credit**.
- **Rubric**. 1 point for relevance (contributes meaningfully to discussion and aids in understanding material: post makes sense, is relevant, and is written clearly. Citations are required: 0.25 points are docked for missing citations; 0.50 points are docked for marginal relevance (very short and effortless post) with or without citations); 1 point for participation (the point is awarded even if the response does not receive the "relevance" point. IMPORTANT: nonsensical and/or completely irrelevant responses will not receive this point. For example: "I have no idea", "Yes", "No", etc. will not receive this point); and 1 point for replies to two students (the grader will evaluate the required replies made to other students and add a point if 1) there are at least 2 replies and 2) the responses are meaningful. Citations are encouraged but not required; 0.50 points are docked if there is only one reply is posted OR if there are two replies with marginal relevance). Go to Canvas, Discussions for instructions and information, including the detailed rubric.

Grading

Grade Distribution

Your grade in this course includes the following participation areas:

Course Component	Percentage
Homework Assignments (OWL)	15%
Mini Quizzes	15%
Exams	50%
Module Discussion Boards	5% extra credit
Final Exam	20%
Total	100% plus 5% bonus due to extra credit

Table 1. Grade Distribution

Grading Scheme

The following grading scheme will be used to assign a letter grade:

Grade	Range
A	93% to 100%
A-	90% to < 93%
B+	87% to < 90%
B	83% to < 87%
B-	80% to < 83%
C+	77% to < 80%
C	73% to < 77%
C-	70% to < 73%
D+	67% to < 70%
D	63% to < 67%
D-	60% to < 63%
F	0% to < 60%

Table 2. Grading Scheme

Final grades are based solely on graded work and are NOT negotiable; **no single student will be offered make-up assignments, retakes, or extra credit points**.

Course Policies

Late Assignments

Homework and Mini Quizzes are designed to help you master a topic before we move on to the next topic; thus, you must complete the work by the scheduled deadline.

Missing the deadline to submit the Homework and the Mini Quizzes will result in a score of zero on these assignments. Missing the window to take the exam will result in an automatic score of zero. This said, please contact your instructor should you have extraordinary circumstances that prevent you from completing the assignment by the deadline. You must contact us as soon as possible, see next section.

Deadline extensions

Deadlines are firm. Communication is important: if you know you will be unable to complete an assignment because of illness or another emergency, contact your instructor in advance. If the illness or other emergency happens on the day the assignment is due, you must contact the instructor ASAP and by

10:00 AM the day after the deadline.

Expected online or classroom behaviors

- All communication within the course should adhere to university standards of **Netiquette at ISU (http://www.celt.iastate.edu/wp-content/uploads/2015/09/netiquetteatISU.pdf)** . Specifically, communication should be scholarly, respectful, professional, and polite.
- You are expected to follow **ISU's Principles of Community (https://www.diversity.iastate.edu/connect/principles)** .
- You may disagree with other students, but such disagreements need to be based upon facts and documentation. It is my goal to promote an atmosphere of mutual respect in our interactions. Please contact me if you have suggestions for improving the interactions in this course.
- Professional and respectful tone and civility are used in communicating with fellow learners and the instructor, whether the communication is by electronic means or by phone or face-to-face.
- Video interactions reflect a respectful tone in verbal communications and body language.
- Use correct spelling and grammar.

Ground rules for the exams

You must work independently.

You are permitted use the following authorized resources to complete the exams:

- Scientific or graphing calculator, Excel (for calculations.)
- Paper and pens/pencils (any work on scratch paper will not be graded.)
- Your course notes, homework assignments, PRQ's.
- CHEM 177 Canvas course content and any links to external webpages that are provided therein.

You are NOT permitted to do the following:

- You may NOT communicate with anyone else about the exam.
- You may NOT have someone else help you solve the questions.
- You may NOT post questions about the exam to the Help Forum on Canvas.
- You may NOT post and/or consult unauthorized aids, including paid-for subscriptions to Chegg, Scribd, or tutoring services.
- You may NOT search the questions in a search engine (e.g. Google).

Ground rules for homework (HW) assignments and Mini Quizzes

You are permitted use the following authorized resources to complete HW and PRQ:

- Scientific or graphing calculator, Excel (for calculations.)
- Paper and pens/pencils (any work on scratch paper will not be graded.)
- Your course notes, homework assignments, Mini Quizzes.

- CHEM 177 Canvas course content and any links to external webpages that are provided therein.
- You may post questions about HW and PRQs on the Help Forum and/or ask your TA; you will not receive a direct answer (e.g. the solution to the problem) but you will be advised on how to proceed in the solution.

You are NOT permitted to do the following:

- You may NOT have someone else solve the questions for you.
- You may NOT post and/or consult unauthorized aids, including paid-for subscriptions to Chegg, Scribd, or tutoring services.

You may NOT search the questions in a search engine (e.g. Google).

Scores

Mini quizzes and exams are automatically graded directly on Canvas; OWL (homework) is automatically graded on the OWL site and synched into the Canvas gradebook. Discussions are manually graded. Homework scores are synched into Canvas periodically. Errors may occur: OWL may experience a glitch and not import the correct score; on an exam or Mini Quiz, the correct answer may be incorrect; a grader may make a grading mistake. If you believe that an error occurred, you must inform the instructor immediately, and by one week (7 days) after the assignment due date. It is the student's responsibility to check grades on Canvas.

University Policies

Visit the Syllabus Statements page for the official list of University Policies.

Syllabus Statements (https://canvas.iastate.edu/courses/109290/external_tools/4514)

Canvas Technical Assistance

- Receive 24/7 support from Canvas live chat by clicking the ⓘ Help option on the Canvas global navigation to your left and opting to chat with Canvas support.
- Call the 24/7 Canvas support phone line by dialing 515-294-4000 and following the prompts for Canvas support.
- Explore the self-paced **Canvas Student Orientation course (https://canvas.iastate.edu/courses/104973)** to understand standard Canvas functions.
- Check out the **Canvas guide (https://www.celt.iastate.edu/learning-teaching-technology/canvas-lms/)** for descriptions, accessibility statements, and privacy policies.

Disclaimer: In extenuating circumstances, the schedule, policies, or procedures are subject to change. All efforts will be made not to alter assignment due dates or scheduled exams. Any modifications will be communicated in writing, verbally in

class, and/or published in the Canvas course.