

COURSE INFORMATION

Class Days / Times: Fri 1-1:50pm
Class Location: GMCS-308
Mode: face-to-face, including lectures, discussions
Platform: Canvas

Instructor: Dr. Hu
Preferred pronouns: she/her
Email: please use the Canvas email function to contact Dr. Hu
Office location: CSL408
Office hours: Appointment Required

COURSE OBJECTIVES

Chemistry 790 is a graduate-level seminar designed to develop students into effective scientific communicators. The course emphasizes not only what science is presented, but how it is communicated. Students will gain mentored experience in reading and critically evaluating current scientific literature, structuring scientific narratives, and delivering clear, compelling seminar-style presentations. Each student will present a research seminar based on a recently published paper (within the last 24 months) that is related to—but distinct from—their own thesis research. In addition, students will actively engage as audience members, learning to analyze and provide constructive feedback on scientific communication.

Class will meet on the second Friday of the semester, **January 30**, 2026. You may sign up for your presentation date before **February 9**, 2026. If you have not signed up by February 9, I will assign your presentation date. The complete seminar schedule will be shared with the class shortly thereafter; signing up early gives you more date options. Please begin preparing your talk as early as possible.

STUDENT LEARNING OUTCOMES

- Critically read and interpret current primary scientific literature.
- Distill complex scientific results into a clear and coherent narrative.
- Design presentation slides that effectively support scientific storytelling.
- Deliver confident, well-timed, and engaging oral scientific presentations.
- Explain experimental data clearly and logically to a scientific audience.
- Provide thoughtful, constructive critiques of peers' presentations.
- Develop professional communication skills essential for conferences, job talks, and thesis defenses.

GRADING

Oral Presentation (64 points).
Attendance and Critiques (36 points)

Cutoffs: 95–100 = A
90–94 = A-
87–89 = B+
84–86 = B

80–83 = B–

Below 80 = C or lower (per SDSU graduate policies).

COURSE STRUCTURE AND EXPECTATIONS

1. Oral Presentation (Primary Assignment – 64 points)

Each student will deliver one **50-minute seminar**, consisting of:

- 30–35 minutes of presentation
- 15–20 minutes of questions and discussion

Topic Selection

- Select a paper published within the last 24 months.
- The topic should relate to your research area but must not be your thesis project or from your own laboratory.
- The paper could be selected in consultation with your research advisor.

Paper Submission

- Email a PDF of the paper to the instructor two weeks prior to your scheduled presentation.
- The instructor will distribute the paper to the class.

Presentation Structure

Presentations should follow a logical scientific narrative:

1. Introduction
 - Provide only the background necessary for the audience to understand the study.
 - Clearly articulate the scientific question or problem being addressed.
2. Methods
 - Describe key experimental approaches.
 - May be integrated with results where appropriate.
3. Results (Core of the presentation)
 - Clearly explain each experiment and its outcome.
 - Walk the audience through figures step-by-step (e.g., lane by lane, curve by curve).
4. Discussion
 - Explain how the data support (or fail to support) the authors' conclusions.
 - Discuss significance, limitations, and potential future directions.
 - Offer your own critical perspective.

Communication Expectations

- Slides should emphasize data, schematics, and visuals, not dense text.
- Avoid reading from notes or slides.
- Use high-resolution images and cite all figures appropriately.
- Practice aloud multiple times to ensure timing and clarity.

2. Attendance and Presentation Critiques (36 points)

Scientific communication is learned both by presenting and by listening.

- Students are expected to attend all Chem 790/791 seminars.
- For each seminar attended (excluding your own), submit:
 - One paragraph summary of the scientific content.
 - One paragraph critique focused on communication effectiveness (clarity, structure, visuals, delivery).

Critique Guidelines

- Critiques should be constructive, professional, and specific.
- Focus on what was effective and where communication could be improved.
- Critiques will be shared with presenters in an anonymized form.

Submission

- Submit critiques as plain text (not PDF).
- Due within 72 hours (by Monday evening) following each presentation.

ENROLLMENT

Prerequisites: None.

Status: Graduate Standing required.

Any exceptions require instructor and department approval prior to registration.