



Syllabus: CHEM 960-2

Seminar-Physical Chemistry

Spring, 2018

Two Credits

Canvas Course URL: None so far

Seminar presentations are arguably almost as important as the published literature for dissemination of your science to other scientists and to the public at large. Both presenting and understanding technical seminars are challenging, but the best seminars are enormously fun and inspiring. Chem 960-2 will help increase your engagement in the seminar series and improve your own oral presentations and listening skills.

Instructor: Prof. James C. Weisshaar, 4211 Chemistry

Email and Phone Number: weisshaar@chem.wisc.edu, 608-262-0266

Instructor Availability: Stop by any time at 4211 Chemistry, or email JCW for an appointment.

Meeting Times and Locations: Three meetings per week.

M and W, 1:20-2:10 pm, 8335 Chemistry. Tu, 11:00 am – 12 pm, 1315 Chemistry.
Attendance required.

Instructional Mode: All face-to-face

Credit Hours are met by traditional Carnegie definition.

Course Prerequisites: Graduate student in Physical Chemistry or consent of instructor

LEARNING OUTCOMES

The goals of the course are:

1. To help first- and second-year physical chemistry graduate students improve their understanding of the weekly physical chemistry seminars by studying and critiquing research papers published by each visiting speaker.
2. To improve speaking and presentation skills.
3. To enhance listening skills.
4. To enhance critical thinking about the style and substance of scientific presentations, both written and oral.
5. To learn to critique and discuss science with peers and mentors and to ask questions in public seminars.

GRADING

Course grades will be based on attendance, participation in discussions, and the quality of class presentations, critiques, and questions asked.

Structure of the class:

Each student will serve as Discussion Leader for one seminar and will present two 12-min talks during the semester.

Monday:

- 1:15 Discussion Leader sets up projector and computer. *Be ready by 1:20 PM!*
- 1:20 Leader conducts 25-min discussion of upcoming seminar. Bring some slides from the guide papers. Focus on the three scientific questions posed by the DL the previous Wednesday. *Everyone participates!*
- 1:45 12-minute student presentation plus 3-min Q&A session
Audience makes constructive notes on comment forms
- 2:00 Comments/discussion about student presentation
- 2:10 Hand in comment forms. *JCW will briefly discuss with student presenter.*

Tuesday:

- 11:00 Attend pchem seminar. *Ask questions!!!*

Wednesday:

- 1:15 Discussion Leader sets up projector and computer. *Be ready by 1:20 PM!*
- 1:20 DL and JCW conduct 25-min discussion of Tuesday's seminar.
- 1:45 12-minute student presentation plus 3-min Q&A session
Audience makes constructive notes on comment forms
- 2:00 Comments/discussion about presentation
- 2:10 Hand in comment forms. *JCW will discuss with student presenter.*

During the semester, each student will:

- 1) Serve as Discussion Leader for one Monday discussion of the upcoming seminar. The DL will set the study/reading assignment **on the previous Wednesday**. The DL will also pose three scientific questions to stimulate discussion.
- 2) Read the assigned article(s) before each Monday discussion. Think about the key questions!
- 3) Ask at least one question during each Monday seminar discussion.
- 4) Attend at least two after-lunch meetings with the seminar speakers (the seminar on which you lead the discussion and at least one other).
- 5) Critique the Tuesday seminar at our Wednesday meeting.
- 6) Present two 12-min research talks. One can be on your own research; the other should be on something different.
- 7) Ask one question during or after each student research talk.
- 8) Ask two questions (over the entire semester) during the Tuesday physical chemistry seminars. (JCW will try to keep count...).

12-minute Research Talks

The research talks will give you the opportunity to improve your seminar skills in a friendly environment where feedback is constructive and welcome. The talks should be no longer than 12 minutes, leaving at least 3 minutes for questions (both during and after). Each student will fill out a form providing advice for the speaker. Your first talk can be about your research if you like, while the second should be on a topic of interest to you.

Monday Seminar Article Discussion

JCW will obtain two recommended publications from each speaker. The Discussion Leader will select (by Wednesday of the previous week) one article or parts of both articles for all of us to read by next Monday's class. Please read them (really!) before class and come with at least one question to ask and discuss. The DL will also provide three scientific questions for all of us to focus on as we read.

Some things to think about as you read:

- 1) What is the goal of the research, in just one sentence?
- 2) What did the experiments or theory teach us?
- 3) What methods were used?
- 4) What do you believe or don't believe?
- 5) Think about a question that you would like to ask the speaker!

Wednesday Post-Seminar Discussions

The Discussion Leader and JCW will lead a discussion of the seminar, with a focus on the presentation itself.

Some topics to think about:

- 1) Seminar slides: font size, number of words, quality of pictures
- 2) Seminar organization – was it logical?
- 3) Introduction – was it accessible? And exciting? Were you drawn in?
- 4) Clarity – did you get muddled somewhere in the talk
- 5) Speed and pacing? Too fast or too slow? Did the speaker rush at the end?
- 6) Personal style – was the speaker inviting or distant? Did the speaker look at the audience? And smile?
- 7) Conclusions: did the seminar prepare you to ask questions? Could you give an “elevator speech” about it? Did you come away wanting to know more?