

Chemistry 791 Research Seminar Fall 2019

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Course time: Friday 12:00 to 2:00
<https://SDSU.zoom.us/j/94269517301>

Office hours: Monday 12:00-1:30
<https://SDSU.zoom.us/j/98501836780>
Wednesday 9:00-10:30
<https://SDSU.zoom.us/j/92368766864>

The course:

Open to graduate students in Chemistry & Biochemistry.

The purpose of this course is to give students an opportunity to practice speaking and present their original research findings and future plans. Students should enroll in Chem 791 after they have defined and begun their thesis research project and acquired some preliminary data that demonstrates its feasibility. Your thesis advisor should be able to help you decide when you are ready to enroll in this course.

Students will give a full-length presentation about their current research and future research plans. Prior to this presentation, you must prepare an approximately 1-page summary that describes your research project. This summary must be pre-approved by your thesis advisor. e-Mail your approved research summary to the instructor two weeks prior to your scheduled Chem 791 presentation. The instructor will review it and post it on the Canvas site.

In your presentation, you should give some background and history of the overall question or problem you intend to investigate, state the specific aims of your research, and then describe the experimental plan and methods you have been and will be using to achieve your research goals. You should work closely with your thesis advisor in preparing and practicing your 791 presentations.

In the weeks you are not speaking you will attend the presentations of other students enrolled in Chem 790 or 791. After every presentation you will write a

one-page critique in which you briefly summarize the presentation and point out what you liked about it as well aspects of the presentation that you feel could be improved upon. These critiques will be shared with the presenter, so please keep your criticisms constructive in nature. Critiques are due within a week after a presentation.

Participation in Chem 790.

Besides making your research presentation, participation in Chem 790 is also mandatory for all students enrolled in Chem 791.

Each student enrolled in the Chem 790 course will give an oral presentation on an original research paper (journal article) from the scientific literature. The student should select an appropriate paper together with his/her research advisor. The paper chosen must be emailed as a pdf file to the instructor by two weeks prior to your presentation. The instructor will post those files on the class Canvas site one week prior to your presentation date.

Every student in the class must read and become familiar with the paper prior to its presentation in class.

Grading

1. Your seminar: 60%
2. Your critiques of other speakers' presentations: 40%

Attendance is required and unexcused absences will negatively affect your grade.

Some guidelines for your oral presentation:

1. You should work closely with your thesis advisor in preparing and practicing your 791 presentations.
2. E-mail a the 1-page abstract to the instructor two weeks prior to your presentation date. The instructor will take responsibility for distributing your paper and advertising your seminar.
3. It is important as a seminar speaker that you know your allotted time and don't go over it. You have 50 minutes for your presentation. Therefore, if given without interruptions your presentation should last approximately 35-40 minutes in length. This will permit time for interruptions during the talk and for discussion afterwards. Be sure to practice out loud ahead of time, several times (preferably in GMCS 305 when it is not occupied). Check to

make sure that your presentation slides can be projected correctly and that any animations that plan to show are functional. Make sure that the length of the presentation is appropriate. You will lose credit if your presentation is unreasonably short or unreasonably long.

4. If you have not done this type of presentation before, it is a good exercise to write out beforehand every word that you wish to speak. That way you will not be stumbling around and boring your audience. This seems like a tedious task, but there is no substitute for having thought carefully through an entire presentation. As you become more experienced at giving science presentations then you might attempt to work from an outline. List the important points that wish to make over the course of the presentation and then work on the transitions that get you from one to the next. Knowing where you are headed will greatly influence what you share with your audience and improve the logical flow of the arguments you make in your seminar.
5. Do not bring extensive notes to your presentation because this may cause you to read your notes. Ideally you will be pointing to items on your slide or making eye contact with members of the audience.
6. Slides should contain a title and data or a list of bullet points. Your seminar should not be typed out on your slides. Slides should provide illustrations for your talk and can function to guide you, reminding you what to talk about next. Slides should never contain the text of your presentation.
7. Any good story has a beginning, a middle and an end. Like a story, you need to give enough background information at the beginning of your seminar so that your audience will be able to make the journey through the experiments and draw logical conclusions with you. Although you should give some general background as an introduction, you must avoid the temptation to share everything you know about the topic with your audience. Most of the time of the talk should be devoted to a discussion of the paper at hand and the data within it.
8. Items to talk about:
 - a. Introduction—What are you planning to do? Why is this project interesting or important?
 - b. Methods—How are you going to address the problem you are investigating.
 - c. Results—What experiments have you done and what are the interpretations?
 - d. Discussion—What conclusions can we draw from your studies thus far? What do you propose to do in the future?

- e. Hint: When you present a data figure on the screen for discussion, it is not sufficient to say “As you can see, Figure 1 shows *such and such*.” It is usually necessary to go through the figure lane by lane (if it shows a gel for example) or line by line (if it shows a table) or curve by curve (if it shows a graph), etc. Consider instead to say something like, “Here is a Western Blot in which antibody X was used to detect protein Y in Z cells” or “In this graph, the total enzyme activity is plotted as a function of increasing inhibitor concentration”. Then you are ready to give your interpretation of what the data suggest. In short, you must demonstrate and explain to the audience how the data shown in the figure leads to the conclusions being drawn.

Remember, a good seminar takes the audience on a journey of discovery. A good seminar tells a good story. And everyone loves a good story.