

Guidelines for Literature Seminar Presentations

The oral presentation of seminars constitutes an important and integral part of a graduate education in chemistry. A passing grade is not automatically awarded for seminar presentations. If a student does not pass their Literature Seminar they get only one opportunity to re-do it. Thus it is important that a great deal of effort and care be invested in the selection of the topic and the preparation of your presentation. You must show that you understand the material deeply enough to make an effective presentation and to answer follow-up questions from faculty and fellow students clearly and completely.

There are two major benefits derived by students from literature seminar presentations. First, you will learn how to locate, gather, organize, summarize, and present a body of work. Second, you will gain practice in the art of public speaking. This experience also prepares you for writing and defending your thesis. Looking ahead to your professional career, sooner or later—in class, at your thesis defense, at group meetings, in a job interview, or at work-site meetings—you will be required to present information orally.

The topic of your literature seminar should be based on a primary research article (**not** a review article) and be selected with the advice and assistance of your research advisor. You should select a topic of interest to you and ideally connected in some way to the research going on in your research laboratory. The focus of your presentation must be on the *chemistry* of the topic. You should spend approximately 3-4 months preparing for your seminar. At least one week before your scheduled talk you must submit a title and a ½ page abstract of you talk to the faculty member organizing the graduate seminar course.

Once the topic has been selected, the relevant references must be read, digested, condensed, and arranged into a well-organized and cogent oral presentation of roughly 40 minutes in length. *Any presentation that falls significantly short of this will not receive a passing grade and will require you to repeat the presentation at a later date.* On the other hand, the presentation should allow sufficient time for questions (about 10 minutes), keeping in mind that there is another class that starts at 5:30pm. The preparation of a credible literature seminar will take a considerable amount of your time, and it should involve the active guidance, advice, and assistance of your advisor. Even experienced speakers find it necessary to revise, reorganize, and refine their initial drafts of a presentation, often many times. You cannot “whip something up” a week or two before the scheduled date of your presentation.

Your presentation should be accompanied by suitable graphical materials. Today, PowerPoint is the preferred medium for seminar presentations. The printing on the projected images should be neat, sufficiently large to be legible at the back of the room, and should not be crammed with more information than can be readily digested by the viewing audience. On the other hand, the audience should not be overwhelmed with a deluge of slides, each with little information, flashed on the screen every few seconds like a jerking movie. While PowerPoint has many “cute” features for sound and animation, these quickly become tedious to the audience and are the mark of an amateur presenter. Each slide should include a reference to the material being presented, if any. Do not put a long list of references at the end of your talk.

Once the material has been assembled, you need to prepare an effective, interesting, and understandable oral presentation. *It is imperative that you perform many “dry run” practice presentations, preferably at least once or twice in front of your advisor, one week before you make your actual seminar presentation.* Practice! Practice! Practice! You must speak loudly enough so that your voice projects to the back of the room. You must speak slowly and distinctly so that you are easily understood. Seminar presentation is an exercise in extemporaneous (not impromptu) speaking. Do not attempt to memorize your presentation like a play’s script, but rather have a clear sense of the points you wish to make, the order in which you will make them, and the ways in which you intend to explain the material as each slide is presented. While it is perfectly reasonable to use notes as memory aids, it is imperative that you do not read from a prepared text. Thoroughly knowing the material will go a long way in giving you the confidence to make an effective presentation with a minimal need for memory aids. If English is not your native language, ask someone who is a native speaker to listen to one of your practice presentations and point out pronunciation difficulties that might get in the way of your audience’s understanding. Be sure to speak to the audience, trying to maintain frequent eye contact with individuals throughout the room. Do not fall into the trap of simply talking to your thesis advisor or a friend sitting in the audience or (worse) to the screen or blackboard. Try to engage your audience in your topic by showing some enthusiasm for it. Again, the involvement and help of your advisor are extremely important in the delivery of an effective, interesting and stimulating oral presentation.

Although the prospect of making a formal oral presentation may be discomforting to you, look upon this experience as an opportunity to acquire an essential professional skill.

10 Most Common Mistakes

1. Too broad: this is why we suggest finding a primary article.
2. Too narrow: it should not be a book report on the primary article. Use the references to help broaden your discussion.
3. Not enough chemistry: the topic may be very interesting but if it does not focus around the chemistry of the issues there is a problem.
4. Did not address the audience: This is a talk that needs to be directed to an audience of all graduate students - heavy equation-laden physical chemistry talks or pure organic synthesis talks are likely not appropriate.
5. Did not get into the “interesting” details
6. Seem surprised by obvious questions asked by the audience.
7. Not enough or too much background information.
8. No conclusion given.
9. No critical analysis work presented.
10. Too short.

Approximate Timeline for Meeting the Literature Seminar Requirement

12 weeks prior	Begin to peruse the most current issues of the ACS journals (http://pubs.acs.org/wls/journals/query/subscriberSearch.html) and/or skim your favorite journals to find exciting topics that you are motivated to explore further in great detail. Select a primary article as the basis of your talk. Do not be afraid to stop and start on a different topic several times before finding the right one for you. It is difficult to give a good presentation that is based on a bad research article. The time wasted on dead ends in this initial phase will pay off later!!! And keep in mind that it is always better to go in depth than to go too broad and only scratch the surface.
10 weeks prior	Submit a primary article from the recent literature that discusses the topic you have selected for your literature seminar to your research advisor for their approval. Do not use review articles as the basis of your seminar!!!! Also, your seminar should not be a book report on this primary article , but the idea is to use this article as a springboard for investigating a fairly narrowly-focused topic. It's a good idea to use references from your primary article to obtain secondary articles. You can also refer to the academic website of the group performing the research in your article for contextual information about the research. Do not use encyclopedic websites for scientific content in presentation.
8 weeks prior	Literature Seminar topic must be officially approved by the research advisor and the faculty member organizing the seminar or you must redevelop your ideas and submit a new idea within 2 weeks.
8-5 weeks prior	Obtain all of the pertinent papers to your topic (secondary references from primary article, PubMed/Scifinder searches, inter-library loan, trips to the MIT library). Five weeks prior to your presentation present to your advisor a binder full of articles that will form the basis of your presentation.
3 weeks prior	Submit a draft of your PowerPoint Presentation to your advisor for review and revision. Schedule a meeting with your advisor to discuss your PowerPoint presentation. Your advisor will inform the GPD of your progress.
2 weeks prior	Submit a revised draft of your PowerPoint presentation to you advisor for review and further revision.
1 week prior	Submit an abstract of your presentation into your advisor and graduate program director. Practice your presentation in front of your advisor/research group/friends to get feedback. Then practice several additional times. Your advisor will inform the GPD of your progress.
Presentation Day	Dress the part and make us proud!

Graduate Literature Seminar – Common Feedback from Faculty and Fellow Students (both good and bad)

1. Summary of Science
 - More Chemistry Content needed
 - Framing of the problem well
 - Gave the Big Picture
 - No References
 - Background information presented clearly
 - Theory explained
 - Subject interesting and timely
 - Topic Choice
 - Motivation for the research missing
 - Breadth vs. Depth

2. Putting together a clear, well-ordered presentation
 - Balance information on slide
 - Roughly 40 minutes long
 - Bring audience up to speed
 - Slides easy to understand
 - Topic presented in context with current science
 - Unbiased
 - Data presented and used effectively to draw conclusions
 - Spelling
 - Slide design
 - Clear flow to talk
 - Organization of talk
 - Number of points per slide
 - Unnecessary information presented

3. Presenting to audience – teaching the audience
 - Time management
 - Professionalism
 - Engage the room
 - Make eye contact
 - Don't read the slides
 - Don't read your notes
 - Present topics at a Graduate Level, but bring audience up to speed quickly
 - Answer questions
 - Familiarity and comfort with information
 - Explaining figures in slides
 - Explaining equations in context of talk
 - Speak slowly and clearly