CHEM 294
CHEMISTRY SEMINAR
Overview and Tips for Student Presentations
Handouts

- Course Syllabus
- Seminar Evaluation Handout
- Tentative Seminar Schedule
Seminar Overview

Types of Seminars

- MS student literature seminars
- Research seminars
- Other seminars (career seminars, undergraduate seminars)

Attendance Requirement:

- 14 Seminar Dates (including today’s and assuming no cancelled seminars)
- You must attend 11 seminars (sign list)
- With permission, one of the above 11 seminars may be replaced
Seminar Overview

► Grading: Credit/No Credit (must have 4 semesters)
  - Based on attendance
  - Students giving a literature seminar must be given a passing grade on evaluation forms

► Literature Seminar:
  - Tips on **how** to plan and give seminar given later
  - The seminar can not be given the same semester as your Thesis Research Seminar
  - Students should give their literature seminar in their second or third semesters
  - Must have done before you can advance to candidacy
Seminar Overview
- My Expectations

► Show up on time; don’t leave early

► Pay attention to speaker

► Please, no distractions during seminar

► Student seminars: Be committed
Seminar Schedule -
Tentative Schedule

►► See Handout
Some Tips on Giving a Literature Seminar

Based on a presentation designed by Dr. Roy Dixon
Chem 294 Organizational Meeting
Overview

► Introduction
► How to Select the Topic and Get Information
► How to Organize the Information
► How to Prepare a Professional Seminar
► Practice Makes Perfect
► Seminar Day
► Summary
Introduction

► Public speaking is an important skill
► Perceive literature seminar as an opportunity
► Your scientific reputation depends on the quality of your presentations
► A guide to giving presentations will be posted on the course website
  (http://www.csus.edu/indiv/g/ghermanb/F12_294.htm)
Introduction - continued

- Sources of Help:
  - Your Research Advisor
  - Seminar Coordinator (me)
  - Fellow Graduate Students
  - The Graduate Advisor
  - Professors That Work in Seminar Field
# Introduction - Timeline

<table>
<thead>
<tr>
<th>Time</th>
<th>Tasks to Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Before Seminar</td>
<td>Choose general topic area, preliminary literature search, read main articles, obtain background literature, submit abstract to graduate committee for approval</td>
</tr>
<tr>
<td>6 Weeks Before</td>
<td>Complete literature search and all reading, organize material, work on detailed talk outline</td>
</tr>
<tr>
<td>4 Weeks Before</td>
<td>Complete detailed talk outline and submit it to coordinator, begin work on PowerPoint slides</td>
</tr>
<tr>
<td>2-3 Weeks Before</td>
<td>Start giving practice talks to your advisor and friends</td>
</tr>
<tr>
<td>1 Week Before</td>
<td>Complete slides for talk and submit to coordinator along with abstract and primary references, continue to practice!</td>
</tr>
<tr>
<td>Monday of seminar week</td>
<td>Get advisor to give their ok to coordinator saying talk is ready to be given</td>
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</tbody>
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Topic Selection

- The topic must be in a different area than the thesis topic
  - Example: a student whose thesis research is on using an HPLC method to analyze atmospheric aerosols should not cover HPLC methodology or atmospheric aerosols
  - The less related the topic is to your thesis research, the more you can expect to learn.
Topic Selection – Continued

- Topic should be in a chemistry, biochemistry, or applied chemistry area.
- The topic should be in a significant area and of recent concern.
- A good source of new and significant research is *Chemical and Engineering News* (especially Science and Technology Concentrates).
- Other sources are review articles, *Nature, JACS, Science, Scientific American*, etc.
Topic Selection – Continued

► The topic material should be of proper breadth and depth

► Topic area should have at least 10 publications in scientific journals

► Examples:
  ▪ Microchip capillary electrophoresis is too broad
  ▪ Application of microchip capillary electrophoresis to the analysis of banana slug trail chemicals is too narrow
  ▪ Application of microchip capillary electrophoresis to the analysis of mucous secretions in animals may be better

► Material selected should tell a story, not be disjointed facts

► Must submit abstract for approval by graduate committee
How to Get Information on the Topic

- Learn to use Scifinder/Chem Abstracts
- Pick up the key words to enter into a search
- Read books and review articles to enhance your understanding of the topic area
- Check references of papers
- I would recommend 2 to 3 review articles or books, ~3 main articles to focus on, and ~10 general field research articles (to enhance understanding of concepts)
Organization of Material

A traditional scientific presentation will be organized as follows:

- Overview
- Introduction (background and objectives)
- Methods (description of experiments)
- Results and Discussion (what did the experiments show and what are the implications)
- Conclusions and Future directions
- Acknowledgements
In preparing materials, you need to:

- Understand the main concepts (both in the papers and in background material)
- Be able to explain the concepts to the audience

Select some specific examples and graphics to use in making slides
Tips on Seminar Preparation - Media

Power Point Recommended

Power Point

- Most Common Method
- Easier to Modify Slides
- Better Visual Aides (especially for photographs)
- Cheaper (if computer available)
- Less “Down Time”
Tips on Seminar Preparation
Textual vs. Graphical

Studies of interpersonal communications show that:

- 55% comes from facial expressions and body language
- 38% comes from vocal quality or tone of voice
- 7% comes from content, the actual meaning of the words

From “Scientifically Speaking”, The Oceanography Society
Tips on Seminar Preparation

Preparation of Slides

► Aim for one to four concepts per slide

► No more than 2 figures per slide

► Assume you will spend about two minutes per slide

► I suggest preparing a few “extra” slides that can be removed
Tips on Seminar Preparation
DOs and DO NOTs - 1

► Make sure the font is large enough to be read from back of room
► Proofread slides – mistakes are embarrassing
► BE Consistent about fonts and capitalization
Don’t have slides cluttered with text boxes in the wrong places
► Test animation sequence; don’t abuse animation features

Keep it simple, edit for brevity
Tips on Seminar Preparation
DOs and DO NOTs - 2

► Check figure quality
► Avoid data tables
► Highlight important parts of complicated figures
► Have someone else review your slides
► Reference borrowed material

Oops, from Schauer and Cass, ES&T, 2000, 5(8), 344
Practice Makes Perfect

► Figure out what you want to say for each slide

► Figure out how to use the technology available

► Have someone point out any annoying nervous habits you have

► Practice with actual equipment and keep track of time
Seminar Day

► Dress appropriately

► Make sure the technology is available and ready with plenty of time to spare

► Look at audience, not at slides

► Be prepared to answer questions
Summary

► View the seminar as a learning opportunity (both on the topic and on giving seminars)

► Make yourself comfortable with your subject and with your presentation

► Give yourself enough time to make improvements
Acknowledgements

I want to thank past audiences who had to put up with some of my “learning experiences”