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Meeting time: Fridays, 2:20–3:10 PM, Alumni House Silver Pavilion or via MS Teams

Office hours: Tuesdays and Thursdays between 1:00–2:30 PM. You can easily book times via Navigate or contact me to make an appointment. Any meetings out of class will be remote via MS Teams or phone.

Inclusion in science: In the Department of Chemistry, we have agreed that sharing our thoughts on inclusive science is important as a part of our on-going commitment to equity in access and diversity throughout our field.

Here are my thoughts: First, you are welcome and belong in this class and in chemistry. Science *should* be inclusive for too many good reasons to list here. Sadly, that is not true because people do science, and our disciplines have been built on privilege that has impacted access to education, information, resources, opportunity, and voice.

My education is a result of privilege and came at a time when science successfully dismissed inclusion (i.e., ‘science is blind’ baloney). Therefore, I am on a steep learn curve for creating and supporting an inclusive scientific enterprise. Nevertheless, I value all identities including race, ethnicity, sex, gender identity, ableness, nationality, sexual orientation, religion, economic status, age, among others, and I value how diverse groups of people and perspectives enrich our lives and, more germane, science.

I am committed to doing right by you and making this class welcoming and supportive of all. Please share with me directly or through an ally, if you need to be anonymous, if that is not the case. I am prepared to learn and do better, and I will not tolerate deliberate exclusion. UVM provides us a starting point for an inclusive environment looks like in Our Common Ground.

Course description: We are spending the semester addressing a key skill for chemistry majors—the presentation of data in oral form. Whether it is your data or not, it is important that you can place some value on that information for your audience.

It is critical that everyone can share ideas and are respectful of each other and different opinions and interpretations. Everyone’s contribution is of value. So much of science is interpretation rather than being right—all voices must be heard.

The plan is to use the semester to select, research, and build a presentation. This requires ample outside reading early in the semester as well as some discussion. Additionally, significant effort is required to produce (and practice!) a presentation in public.

Learning goals: The goal of this course is for students to perform some critical analysis of the chemical literature and disseminate that analysis in both written and oral form. Therefore, we need to have students

1. Practice skills in literature searching.
2. Synthesize important ideas from multiple sources.
3. Evaluate literature with respect to the quality of conclusions and their potential impact.
4. Summarize data into less formal short presentations.
5. Execute a formal colloquium-type presentation.

The department has retained this exercise for decades because these skills are essential. It is routine that individuals in any job sector are required to present on relevant topics, use appropriate resources to support ideas or plans, and provide succinct reports. These are skills that get jobs and lead to promotions.

Selection of topics: Topic selection for a presentation is a critical. These are my three major thoughts on this subject.

1. Your topic should be current, which would be demonstrated by significant activity in the last five years.
2. Your topic must be chemical. This would appear to be obvious, but it is easy to get trapped in overly extensive background or applications. The litmus test of how chemical a presentation is come from asking, “does this topic primarily deal with the physical properties of molecular substances?”
3. Your topic should be sufficiently broad but not overly so. For example, “chemotherapeutics” is much too broad, representing hundreds of compounds and decades of research. Topics of too narrow focus like, “the rotational spectrum of...” are equally problematic. Ultimately, your topic should be defined by thesis, or an argument of some kind, rather than a topic statement. It is easier to find that balance of depth and breadth when you are proving a point.

Topics *must* be approved by the instructor in advance.

Section of topics, nitty gritty: It is a big chemical universe, and lots of interesting things are going on out there. Therefore, this topic will be different from the one you pursued in CHEM 181. However, choosing an exact topic of interest can be a challenge. Your personal interest should be a deciding factor. Good places to start looking are *Chemical and Engineering News* or *Chemistry World*. These are the trade journals of the American Chemical Society (ACS) and Royal Society of Chemistry, respectively, which often present topics of broad interest. If you have a better idea of where to start, looking at review articles, like those in *Chemical Reviews*, *Accounts of Chemical Research*, or *Chemical Society Reviews* are good sources. Of course, many journals present review articles as well as their primary source content. One of the pitfalls about review articles is that the content can, even in a few years, become dated. A valid strategy to avoid that is to start with a slightly older review article (say, 4–8 years old) and follow how the subject has advanced since then using primary literature. That also allows you to develop easily proven theses like “the field has moved in [insert your analysis here] direction” in the last several years.

Topic round robin: Your first “presentation” will merely be sharing your nascent topics. To get the job done well, you should share the general area of your topic and an anticipated thesis for your presentation. This should only take a few minutes, and no visual aids will be needed. Everyone will be prompted to provide feedback to help make sure topics are appropriate and provide any suggestions or other input.

Prospectus: You will present to me and your peers in the class what your topic is. These should be about five minute presentations (two or three slides) and include some citations. The goal is to convey the thesis of your presentation, what it is that you will be trying to prove. To compel the group you are presenting a valid thesis, you would want to state two to four supporting key ideas, which derive from the literature. Naturally, your peers may have some questions when you’re done.

One-paragraph summary: This is pretty self-explanatory. To supplement your prospectus, please write a one-paragraph summary. To be effective, this document would state your thesis and main points to support that idea.

Presentations: The presentation is the core of the course. It is the major product of your work, and it is the greatest component your evaluation for the course. Presentations need to be chemistry-centered, exhibit both breadth and depth, well organized, and polished. It is a tall order, but you have all semester to work on it. We will talk a lot about presentation structure, style tips, and dos/don’ts throughout the semester. However, part of the reason this is attached to the department seminar series is for you to watch those presentations with the critical eye about what you might emulate that is good and what you would avoid that is ineffective.

Presentations are limited to a half hour total, which we divide into 25 minutes of presentation and reserve five minutes for questions. That 25 minute number is an important target. Running significantly short suggests too little content and running significantly longer will unleash the ire of your peers.

Given the size of the class, most presentations will be recorded and shared on-line via UVM ftp ([filetransfer.uvm.edu](ftp://filetransfer.uvm.edu)). Some space for in-person presentations will be available. In all cases, we will have a schedule and class time will be used for audience questions.

Your presentation will have an accompanying, brief write-up. Details on the write up will be discussed in class. The write up and the drafts of the document are my way of helping you to hone in on content and let you focus on developing a high-quality presentation. For assessment purposes, this is the place where you catalog your references

Peer critiques: To better understand your own presentation, we will consider not only the content of each other’s presentations but the mechanics as well. While you are not grading your peers, you are providing them feedback, which they will see. Therefore, we will develop criteria that we will consider together and agree how that is delivered.

Plagiarism: We will have a group discussion on the idea of plagiarism in class. While we are looking for you to provide some critical analysis, it is essential that you cite all ideas, content,

and images that are used in your presentation and write up, which are not your own, and that you conform to UVM standards for academic honesty.

Grading: Your performance in this course will depend on four factors (in order of importance):

- 1) The quality and completeness of your presentation (60%).
 - Presentation mechanics (slides, organization, continuity, clarity, etc.): 70%
 - Content (scope and depth) from presentation, paper, and Q&A: 30%
- 2) Prospectus & summary of topics: 20%
- 3) Peer critiques: 20% Depending on the number of students, you will be required to submit critiques for approximately half of the presentations.

All items are due in class (at 2:20 pm) unless otherwise noted.

Course Schedule (tentative)

Date	Topic/assignment
2/5	Presentation basics; topic selection
2/12	<i>Topic round robin</i>
2/19	<i>Topic round robin, cont'd</i>
2/26	<i>Topic prospectus presentations</i>
3/5	<i>Topic prospectus presentations, cont'd</i>
3/12	<i>Topic prospectus presentations, cont'd</i>
3/19	<i>Topic prospectus presentations, finish (as needed); Peer-critique lesson</i>
3/26	<i>Drafts of slides due, presentation feedback</i>
4/2	Student presentations
4/9	Student presentations, <i>peer critiques for current talks due</i>
4/16	Student presentations, <i>peer critiques for current talks due</i>
4/23	Student presentations, <i>peer critiques for current talks due</i>
4/30	Student presentations, <i>peer critiques for current talks due</i>
5/7	Student presentations, <i>peer critiques for current talks due</i> , analysis of group
5/14	Registrar-scheduled final exam time: <i>Final write-ups & peer critiques due (4:30-7:15 pm in L200)</i>

You should try to attend all department seminars. These are most often on Tuesdays and Thursdays (10:00 am). Please check the department Web page for scheduling.

Department seminars are informative for their content, but this is a time for you to see what is being done in scientific presentations and decide what you think is a helpful practice and what is not.