

This document was prepared in response to student questions about CHM 1004 projects.

When you have questions or want feedback about anything project-related, email Professor Charnick.

Selecting a Project Topic

Selecting an appropriate topic is the first, and often the most frustrating, step in the project.

- The topic must be chemistry-focused. Chemistry-focused means discussing chemistry, not simply mentioning or listing elements or compounds. Therefore, carefully select a topic that has significant amount of chemistry content.
- The topics listed in the syllabus are general ideas. If you are interested in pursuing one for a project, select a specific subtopic.
- The topic must be appropriate for a 10-page paper and a 10-minute presentation in a way that requires more than one source. For example, if all of the information you'd want to use about the topic is in the textbook, then it is probably either too general or too specific. The instructor can assist you with broadening or narrowing a topic, if needed.
- The topic must be readily understood by all students in the course during the presentation.
- Make sure sources are reliable and that the topic requires at least three sources. Again, if you're not sure, ask.
- Your first lead probably won't be a primary source. When possible, primary sources should be sought out. Again, if you're not sure, ask.
- A search for "chemistry news" is likely to turn up a wide range of links to sources of interesting topics. Some popular sources for topic ideas include the following.
 - The New York Times: <https://www.nytimes.com/topic/subject/chemistry>
 - Scientific American: <https://www.scientificamerican.com/chemistry/>
 - Science Magazine: <http://www.sciencemag.org/category/chemistry>
 - Science Daily: https://www.sciencedaily.com/news/matter_energy/chemistry/
 - Science News for students: <https://www.sciencenewsforstudents.org/search?tt=67>
 - SciTechDaily: <https://scitechdaily.com/news/chemistry/>
 - Discover Magazine: <http://discovermagazine.com/tags/chemistry>
 - Popular Science: <https://www.popsci.com/tags/chemistry>
 - Topics mentioned in the textbook.
 - and countless more!

Preparing the Term Paper

Write an approximately 10-page, chemistry-focused, well-organized, well-written, properly referenced paper. This is a research and writing assignment, not a copy and paste or compilation assignment.

Chemistry-focused

Does the paper include a significant discussion of all pertinent chemistry of the topic?

- Are all relevant formulas, chemical properties/reactions, physical properties, and physical processes included and discussed thoroughly?
- Does the chemistry-related discussion go beyond what's presented in the textbook or any other single resource?

Well-organized and Well-written

The paper should be thoroughly outlined prior to writing. The outlining process should determine what's included, how it's included, and where it's included. After outlining, writing skills should be applied.

- Is outlining work evident a well-organized paper?
 - Are topics organized in a logical manner?
 - Is the structure of the headings and subheadings logical?
 - Are the paragraphs within each section logically ordered?
 - Does each paragraph have a topic sentence, supporting sentences and a clear focus?
 - Are transitions used?
- Is there an Introduction section that summarizes the paper but still makes sense to someone who hasn't read the paper?
- If needed, is there a Background section that includes information requiring more details than the Introduction section?
- Does the introductory and/or background information, at a minimum, explain the ideas needed to proceed with reading paper?
- Is the bulk of the paper easy to follow due to good writing and organization?
- Is there a Conclusion section that highlights essential ideas and/or looks toward future work?
- Are figures used properly?

- Are figures relevant and included to help support written ideas (and not for decorative or other purposes)?
- Are figures referred to in the main text and thoroughly discussed there?
- Are figures in appropriate locations, near where they are discussed in the main text?
- Is each figure labeled?
- Is all paraphrasing and quoting appropriately done? (If you're not sure how or when to do which, consult online resources.) **After selecting a topic, this often is the most challenging part of preparing the project!** Typically, information from single sources is quoted and information from combined sources is paraphrased. Paraphrasing a single source risks misstating information, but it can be helpful for clarity. Most of the paper should be paraphrased.
- Has the paper actually been written by the student?
 - Does the work not show up as plagiarized, primarily copied and pasted, and/or primarily compiled?
 - Are there no pages that are overly reliant on a single resource?
 - Is the outline based on the student's outlining work or that of another source?
 - Does the paper go well beyond the textbook's or any other source's discussion of the topic, including ideas from a range of sources?
- Is the paper written so that any other student in the course could read it, understand it, and learn new information?
- Are there grammar mistakes that could have been avoided with proofreading or an applications' grammar checker?

Properly Referenced

In addition to meeting the requirements for being the student's own work, resources must be credited correctly.

- Are the references reliable sources and primarily primary sources?
- Has the original source been located, used, and referenced when possible and appropriate?
- Is all paraphrasing and quoting appropriately done?
- Is all quoted and paraphrased content properly connected to references using an accepted reference citing approach, such as footnotes or parenthetical citations?
- Are all non-original figures properly referenced?

A visit to the Writing Center prior to submitting the paper draft is strongly encouraged

The Writing Center in Newman Vertical Campus Room 8-185 provides one-to-one tutoring, workshops, eTutoring, and walk-in hours.

Preparing the Presentation

Students often get nervous about presentations. They usually go much better than expected.

- Presentations typically are conducted with PowerPoint, but other formats are possible.
 - Fonts should be clearly visible at the back of the room, which typically requires size 18 or larger.
 - There should not be too much text on a slide. Include only key points. Full sentences are not needed.
- Presentations should be edited and practiced so that they are approximately 10 minutes
- Presentations should not be overly read from slides, notes, or notecards.
- All important new words should be pronounced properly.
- Presentation structure and content match the paper, with an introduction, background information if needed, well-organized sub-topics, and conclusions. References also must be included.
- Information should be selected and communicated so that any other student in the course can understand it and learn new information.
- There are a range of campus resources offering assistance with presentation skills; take advantage of them.
- Yes, presentation information will appear on the final exam.

Is there information missing? Let me know so it can be added. That's how this document started.