

CHEM450 Guidelines for Group Report

A. Finding an article about the selected topic

1. Find an article from a scientific journal, preferably J. Chem Ed., about your selected instrument. The article should be a laboratory experiment that uses the instrument (e.g. if your selected instrument is GGMS, pick an article on the use of GCMS to separate compounds X and Y in a mixture).
2. Once you found an article, bring me a copy for approval. [My advice: Select 2-3 articles so if one is rejected at least you have another article for approval]
3. Once your article is approved, you may start putting your presentation together.

B. Putting your presentation together

Your 15- to 20-minute presentation (approx. 15-20 slides) must be in Powerpoint. The following components must be in your slides:

1. Introduction

- Give some background information about the instrument and its use in specific chemical analysis
- If there are terms to introduce, give a list of terminologies and their definitions
- If needed, give background information about related concepts (for example, when I talked about molecular UV/Vis spectroscopy, I discussed the different types of transition undergone by molecules upon absorption of UV or visible light)
- If there is enough room for this, you can give a short history on the development and/or use of such instrument

2. Instrumentation

- Show a block diagram of the instrument like you've seen in class. This could be something you put together or copied (and pasted) from the literature but remember to cite your reference;
- Discuss the function of each major component and how the instrument works

3. Applications

- Discuss the use of such instrument – what types of samples can be analyzed with such instrumental method?
- Show and explain sample data gathered using your instrumental method from the article that I approved
- Discuss the results of the experiment from the article and the appropriateness of the instrumentation for such experiment

3. Conclusion

- What are the limitations of your instrumental method?
- What are the advantages of your instrumental method over other related instrumentation?
- If available, show an estimated cost of such instrument

4. References

C. Your written report

Follow the same *organization of topics* as the oral presentation, but all the text must be in paragraph format, like a long lab report. It must have a minimum of 5 pages of text. Don't forget to cite references throughout the text.

Title

Names

- I. Background Information
- II. Instrumentation
- III. Applications
- IV. Conclusion

The group grade will be based on:

1. Written report (60 %)
 - Organization
 - Completeness
 - Clarity
 - Neatness
2. Oral report (40 %)
 - Organization
 - Completeness
 - Clarity

ORAL PRESENTATION – EVALUATION FORM

Group Members: _____

Rating Scale: Please write a numeric evaluation of each criterion.

| Criterion | Excellent (>95) | Very good (88-95) | Good (80-87) | Fair (70-79) | Poor (<70) |
|---|--------------------|-------------------------|-----------------|-----------------|---------------|
| Quality of visual aids (Power Point slides or use of blackboard or transparencies) | | | | | |
| Clarity of oral presentation | | | | | |
| Organization of presentation | | | | | |
| Ability to relate to other students | | | | | |
| <i>Overall impression</i> of the presentation | | | | | |

Additional comments: (Optional)