

## 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)