

## Lab Report Requirements, Week 3

Revised: 4/13/14

**Title page.** *Always required.*

**Abstract.** *Required.*

The abstract should state the objectives of the experiment. Address the question: What is being studied? Then the key results, major points of discussion, and the main conclusions should be summarized concisely. Write the abstract last! You cannot summarize the experiment until you have written about it in detail. Never start your abstract with “The purpose of this experiment was...”. This should not be more than 1 paragraph.

**Introduction.** *Not required.*

**Experimental.** *Required.*

**Results.** *Required.*

- Include all data in table(s).
- Include figures (absorbance spectrum, fluorescence spectra, calibration curves).
- Include 95% confidence intervals for:
  - the slopes of the calibration curve and standard addition curve
  - the intercept of the calibration curve and standard addition curve
  - the unknown riboflavin concentrations (in the vitamin solution) from the calibration curve and standard addition curve
- Calculate the percent riboflavin in the vitamin sample using both methods (calibration curve and standard addition).

**Discussion.** *Required.*

- Include all equations used for your calculations (equations of lines used to calculate unknown concentration and percent riboflavin). Number the equations and provide a description of the variables in the equations. You do not need to include statistical analysis equations here.
- Analyze the results. Compare the experimental and theoretical values (if available) and include a detailed analysis of errors.
- Compare standard addition results to the results from the regular calibration curve. (Which one was better? Why might one be better than the other?)

**Conclusion.** *Required.*

Briefly summarize the experiment, describing what was done, how it was done, what results were obtained, and why the results were important. This section is similar to the abstract.

**References.** *Always required.*

Lab manual website must be cited.

**Statistical analysis.** *Required.*

All statistical analysis must be performed in Excel, and an Excel file must be uploaded into your ELN.