Project 1: Optical Immunoassay Assignment (OIA)

BIOE 385 Bioinstrumentation Laboratory

Written Report Rubric

Student Name:

Student Name: **Total Grade: _____/50**

Student Name:

Executive summary (**10 points total**, more details on next page)

- Explanation of device goals and function _____/2
- Physiological relevance _____/2
- Brief summary of equipment/technology used _____/2
- Brief summary of device validation _____/2
- Recommendations for use and future work _____/2

Description of work and technical specifications (**22 points total**)

- Overview explanation of device _____/2
- Circuit diagrams for each circuit _____/4
- Theoretical explanation of each circuit _____/2
- Justification for component selection _____/2
- Description and examples of your LabVIEW program _____/4
- Description of calibration procedure _____/2
- Data, figures, plots demonstrating calibration and testing _____/2
- Metrics describing accuracy and precision of each design _____/4

Recommendation to company (**10 points total**)

- Final recommendation of circuit design _____/2
- Justification (including factors such as accuracy, precision, cost, and ease of implementation) _____/4
- Device limitations and future improvements described _____/4

Figures (**3 points total**)

- Appropriate resolution, brightness, and contrast _____/1
- Figures highlight relevant information (labeling, cropping, highlighting, captioning) _____/2

Format, grammar, readability (**5 points total**)

- Table of contents with page numbers (and appendix, if applicable) _____/1
- Concise sentences and accurate language _____/2
- Grammar, spelling, and punctuation _____/2

Description of Executive Summary

As a part of your technical reports, you will write an executive summary. The purpose of an executive summary is to summarize your project's status and orient your audience to the aims, methods, and implications of your project. *It should be less than one page.*

Organize your summary to answer the following questions:

- What problem are you trying to solve?
- Why is solving this problem interesting or important?
- How will/does your design solve the problem?
  - How will/does it work and why did you choose this specific approach over other options?
- How will/did you validate your design?
  - What surprises, new discoveries, or anomalies have/did you encounter?
  - What do your performance results suggest about the solution you proposed?
- Which device would you recommend to use for the final design and why?
  - What recommendations do you have for improving or building on your design?
  - What do you plan to do next or what recommendations can you make to others that might conduct follow-up studies?

In some cases, **the executive summary might be all that your boss or a decision-maker reads** when evaluating your project and determining a course of action, so it is important to be concise, yet thorough.