# CHEM 191 Lab Report Rubric

## General Evaluation of Learning Goals

| Information Literacy | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Have appropriate scholarly sources been cited where necessary? | | | | | |
| Have low-quality or uncredible sources been avoided? | | | | | |
| Have results been interpreted appropriately and accuratly, with comparisons to other scholarly works? | | | | | |
| Has an unbiased description of the problem been presented? | | | | | |

| Inquiry | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Have clear, focused questions and/or hypotheses been stated? | | | | | |
| Has an appropriate method of inquiry been explained to answer the questions? | | | | | |
| Has the method or inquiry been appropriately applied to answer the questions? | | | | | |
| Have clear conclusions been drawn regarding the questions and/or hypotheses? | | | | | |

| Awareness of Impact | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Have questions been put in context by discussing the broader impacts on humans and the natural world? | | | | | |
| Have conclusions been presented that indicate how the findings could be used to develop public policy, new products, new methods of understanding, etc.? | | | | | |
| Have conlusions been presented to indicate actions individuals or public could take to lessen their negative impacts or grow their positive impacts? | | | | | |

## Evaluation of Manuscript Content

| Title & Abstract | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Is the title *descriptive* and *succinct*? | | | | | |
| Has a short, but stand-alone, abstract been provided? | | | | | |

| Introduction | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Does the Introduction clearly state the overall question/purpose of the study? | | | | | |
| Has relevant background information about the analyte(s) been given? | | | | | |
| Has relevant background information about the technique been given? | | | | | |

| Materials and Methods | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Are methods detailed enough that the study can be repeated by another trained scientist? | | | | | |
| Are there any irrelevant details that could be omitted? | | | | | |
| Are instrument methods clearly detailed, including tables where appropriate? | | | | | |

| Results and Discussion | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Has the main finding been clearly presented? | | | | | |
| Are there factual, logical, analytical, statistical, or mathematical errors? | | | | | |
| Are all figures and tables clearly explained, in order? | | | | | |
| Have the results been related back to the question(s) posed in the Introduction? | | | | | |
| Is there sufficient data and/or supporting evidence to support the answer? | | | | | |
| Have the results been put into perspective by relating them to other scholaraly sources? Have explanations to unexpected results been provided? | | | | | |

| Conclusions | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Have the impacts of the results been clearly conveyed? | | | | | |
| Are the conclusions free from logical errors? | | | | | |
| Has the study been adequately summarized? | | | | | |
| Has/have clear conclusion(s) been presented regarding question at hand? | | | | | |

| References | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Are sources cited adequately, appropriately, accurately, and in the IEEE format? | | | | | |
| Are all the citations in the text listed in the References section, and *vice-versa*? | | | | | |

## Evaluation of Grammar and Formatting

| | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| Is the document written according to the CHEM 191 writing guide? | | | | | |
| Are sections clearly labelled? | | | | | |
| Are the transitions between sections and paragraphs logical? | | | | | |
| Are paragraphs and sentences cohesive? | | | | | |
| Are there any grammar, punctuation, or spelling errors? | | | | | |
| Has unnecessary information been appropriately omitted? (Is there anything that should be omitted?) | | | | | |

5 = excellent, 4 = good, 3 = sufficient, 2 = needs improvement, 1 = lacking

*Parts adapted from: Writing Papers in the Biological Sciences by Angelika H. Hofmann. Oxford University Press 2016 (2nd ed.)*