

## CHEM 431

Assignment: Students will write a report about a laboratory experiment that measured the quinine concentration in tonic water using fluorescence spectroscopy. The report must be 2.5 - 6 pages of written text but include several figures that increase overall page length. The report must include at least three references from peer-reviewed journals and these references should be cited in the same format used for *Journal of Pharmaceutical Sciences*. Similar to a formal scientific manuscript, the report must include the following sections: Title, Abstract, Introduction, Experimental, Results and Discussion, Conclusions, and References.

| CHEM 431L<br>Spring 2021   | Document<br>Conventions          | Appropriateness of<br>Sources    | Evaluating Sources              | Integrating Sources              |
|--|----------------------------------|----------------------------------|---------------------------------|----------------------------------|
| Paper 1  |                                  |                                  |                                 |                                  |
| Reader 1   | 3                                | 4                                | 2                               | 3                                |
| Reader 2   | 3.5                              | 4                                | 2.5                             | 2.5                              |
| Paper 2  |                                  |                                  |                                 |                                  |
| Reader 1   | 4                                | 4                                | 3                               | 3                                |
| Reader 2   | 3                                | 3                                | 3.5                             | 3.5                              |
| Paper 3  |                                  |                                  |                                 |                                  |
| Reader 1   | 4                                | 4                                | 4                               | 4                                |
| Reader 2   | 4                                | 4                                | 4                               | 4                                |
| Paper 4  |                                  |                                  |                                 |                                  |
| Reader 1   | 3                                | 3                                | 2                               | 3                                |
| Reader 2   | 2                                | 2                                | 1                               | 2                                |
| Paper 5  |                                  |                                  |                                 |                                  |
| Reader 1   | 3                                | 2                                | 1                               | 2                                |
| Reader 2   | 2                                | 2                                | 2                               | 2.5                              |
| Paper 6  |                                  |                                  |                                 |                                  |
| Reader 1   | 3                                | 3                                | 1                               | 2                                |
| Reader 2   | 2.5                              | 2.5                              | 2                               | 1.5                              |
| Paper 7  |                                  |                                  |                                 |                                  |
| Reader 1   | 3                                | 2                                | 2                               | 1                                |
| Reader 2   | 2                                | 2.5                              | 2.5                             | 2                                |
| AVERAGE  | 2.92                             | 3.00                             | 2.32                            | 2.57                             |
| <i>n</i> = 7<br>Interrater reliability (%<br>agreement--all ratings):<br>Percent agreement<br>(sum): 21.4%<br>Correlation: 0.9109<br>Kappa:<br>P-value: .004336<br>Significant at: $p < .05$ | Reader 1: 3.29<br>Reader 2: 2.71 | Reader 1: 3.14<br>Reader 2: 2.93 | Reader 1: 2.14<br>Reader 2: 2.5 | Reader 1: 2.57<br>Reader 2: 2.57 |
| Inter-Rater  | 1/7=14.29%                       | 3/7=42.86%                       | 1/7=14.29%                      | 1/7=14.29%                       |

Action taken (or to be taken) in response to data: It is important to analyze the variation among students as well as the different scores associated with each rubric category of information literacy. Papers 1, 2, and 3 all had average scores around 3 or higher (2.94 – 4); while papers 4, 5, 6, and 7 all had scores around 2 (2.06 – 2.25). Therefore, the first course of action will be to provide additional instructional support for students with the lower overall scores. This will be done by asking the students to consult with a writing tutor at the Kilohana Academic Success Center and/or submit a rough draft to the instructor for review prior to submitting the final draft. Currently, a rough draft is required for this course for only the first paper submitted, but it is optional for later submissions. Among rubric categories, the highest average score (3.00) was in “Appropriateness of Sources”; students recognize that they need to seek out peer-reviewed science journals as their source. “Document Conventions” scores (2.93)

were also relatively high, but students need to be reminded of the citation style they are supposed to use. The scores for “Integrating Sources” (2.57) and “Evaluating Sources” (2.32) were lower. In the future, students will be given more detailed instruction and examples on how to evaluate the credibility of sources as well as how to integrate sources into their writing to support the main argument.