GUR Competency Assessment Report

Thank you for supporting the assessment of our GUR program. Please provide information about how your department/unit assessed student work toward your selected GUR competency by responding to the following prompts.

1) Department

Chemistry

2) Assessment Coordinator(s): Who is responsible for coordinating assessment in your department/unit

Emily Borda

3) GUR Competency Being Evaluated (GUR competencies here).

Competency 1 - Analyze and communicate ideas effectively in oral, written, and visual forms.

4) Please describe the performance(s) used to assess student outcomes toward the GUR competency (performances could include term papers, pre-post exams, presentations, etc.).

In Chem 355, students were asked to write an article describing their characterization of a molecule from spectroscopic data, according to the style guidelines for the Journal of Organic Chemistry.

In Chem 468, students were asked to write a research proposal about some aspect of biophysical chemistry.

5) Please describe how you analyzed those student performances.

Chemistry faculty sampled 3-5 papers from each class. Each paper was evaluated by the instructor and one member of the assessment committee, according to the GUR competency 1 rubric with an added row (described below). The instructors and assessment committee members met to discuss their findings and identify one portion of the rubric to focus improvement efforts on during the following year.

6) Using the categories from the appropriate GUR competency rubric, describe your assessment of students’ performance toward that competency. For example, for Competency #1 you should address contextual knowledge, focused development, organization, and conventions.

Contextual Knowledge: The samples demonstrated adequate attention to audience, with one of the weaknesses being failure to recognize when terms need to be defined for an audience unfamiliar with a specific area of research. Many of the samples also failed to establish explicitly the purpose of the paper in the introduction.

Focused Development: Many of the papers failed to connect detailed observations and results to a central idea.

Organization: The samples generally followed a logical flow. This was often due to explicit guidelines for what sections should be included in the samples and what those sections should contain.
Conventions: While grammar and spelling was usually adequate, a general weakness across student writing samples was the construction of an abstract that is consistent with disciplinary conventions. Students demonstrated poor knowledge about what include in the abstract and what to leave out. For example, students often provided too much detail about their experimental methods in the abstract and did not report on any of their results.

7) Did you add any assessment criteria for this competency beyond those listed on the rubric? If yes, please describe here.

Yes. A row was added to the competency 1 rubric to assess clarity and articulation, since this aspect did not seem to be represented in any of the other rows.

8) If you answered yes for (7), describe your assessment of students’ performance toward these additional criteria.

Students demonstrated a range of skill in clearly articulating their points.

9) As you consider your data, what would be appropriate next steps to improve students’ performance toward the selected GUR competency? Please indicate any professional development resources that would help you support students’ progress toward the selected GUR competency.

Contextual Knowledge: Make explicit to students the need for stated purpose in their papers within the first two paragraphs.

Focused Development / Clarity and articulation: Be more explicit in about the intended audience for each writing assignment. Employ a round of peer feedback within courses, perhaps even between courses, so that students could evaluate the readability for audiences familiar with basic principles of chemistry and biochemistry but lacking some specific knowledge related to the distinct research fields in which the papers are situated. This peer feedback section could be structured using a rubric that defines criteria for Focused Development and Clarity and Articulation.

Conventions: Instructors plan to discuss when in the department’s programs, if at all, the students are taught how to write an abstract. Instructors will agree on one course where this topic should be introduced and practiced by students.

The chemistry department would like some professional development targeted towards how to give students effective, targeted feedback on their writing samples that helps them improve their writing skills.