

Spring 2018
Core Curriculum Assessment Report

of

Skills 2 – Critical Thinking

from the

Science

Core Curricular Area



submitted by

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on behalf of the

Science

Core Area Assessment Committee

Methods

How was student work (artifacts) collected for assessment?

Student work was supplied by the instructors of record for the selected sections. In Physics and Astronomy, only the lab courses were evaluated for skills 2 as the assignments in the lecture courses did not evaluate this skills area.

What type of artifacts were collected?

The types of artifacts selected varied from course to course. They include lab quizzes, lab reports, in-class lecture tutorials, group projects, online discussion boards, presentations, notes on discussions in class, and data analysis exercises.

How were the artifacts sampled for assessment?

In smaller sections (less than 25 people), all artifacts were used in the assessment. In larger sections, a random sample of 25 to 40 artifacts was used. Some larger courses also chose to assess all artifacts that were submitted.

How were the artifacts scored?

Each artifact was assessed based on the Skills 2 rubric.

How was reliability in scoring determined and ensured?

All evaluators used the same standardized rubric to increase reliability. Some artifacts, such as lab quizzes with clearly correct and incorrect answers, are not subject to interpretation; one individual can accurately assess these types of artifacts. In this semester, only one faculty member from each area evaluated the artifacts for his or her area. In future semesters, we plan to implement redundant assessment of the artifacts with at least two faculty, but recruiting a second evaluator has proven to be somewhat difficult in small and/or understaffed departments.

Reflection

What was learned from the assessment results?

Overall, 70.7% of science core students score as advanced or proficient for skills 2. In areas where there are two semester sequences that count toward the science core requirement, students in the second semester course outscored the students in the first semester course, showing that students are improving on these skills with continued science education. Students in online courses performed as well or better than students in face-to-face courses.

Continuous Improvement

What changes will be made based upon the assessment results?

Instructors will be made aware of the results of this assessment to help them with any changes they'd like to make to the curriculum. To better address the needs of non-science majors, Biology is planning to introduce new courses. Astronomy is planning to do some remediation in topics such as quantitative reasoning and technological interaction.

Once again, there was some trouble collecting artifacts from some of the concurrent sections. Some programs with concurrent sections will be re-assessing their timelines for informing concurrent instructors about collecting and submitting artifacts.

Feedback

What changes are recommended for Core assessment?

We hope that the rubrics and forms are now in their final version. It is a challenge to complete the reporting process when the rubrics and forms are hard to access. We also think it is important for the CAAC to know that not every assignment given will meet every learning outcome, but that the student should be introduced to every learning objective and outcome over the length of the course.

Comments

Other comments?

The second page of the Google form is somewhat problematic if you are scoring multiple learning outcomes for one area. For example, in skills 2 there are two learning outcomes that some courses chose to assess using different artifacts. In some cases this led to there being different numbers of artifacts for the two learning outcomes. There was no way to report this on the page. See the data for CHEM 1402 face-to-face for an example.

END OF REPORT