



College of Science (CSCI)
 North Science 135
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2015-2016 CSCI EETF Assessment Year End Report, June, 2016

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A. Program Student Learning Outcomes

Masters of Science in Mathematics

Students graduating with a Masters of Science in Mathematics will be able to:

1. Apply the fundamental definitions and theorems of pure mathematics
2. A

	information is missing.	unjustified statements.		
Fluency	No coherent flow of ideas Listing facts without a sense of how to link them			

These scores indicate half of the students have mastered and 40% have developed the ability to write a readable theorem statement, 80% have mastered or developed the ability to write a valid theorem statement, 30% have developed and 40% of the students have 0.2 .24 292.5879 608.64cr

Closing the Loop

Math Graduate

This was our second attempt at using the RVF (readability-validity-fluency) rubrics to score authentic student work for attainment levels of PLOs. We learned/improved our process in the following ways:

- a) developing a rubric to be used for a variety of courses forced/allowed us to examine common features of successful student work that is not exclusively looking for the right answer = “validity.” Working with faculty across the department with different areas of expertise to identify and measure three features, readability, validity and fluency, which characterize quality and maturity in student work created opportunities for conversations about pedagogy and priority of outcomes for our students.
- b) identifying appropriate problems for scoring takes some care as the dimensions of the rubric (readability, validity, flow) were not necessarily demonstrated and/or were too interdependent on some types of problems.
- c) we will continue to refine the rubrics for greater ease of use and applicability.
- d) we will consider sharing the rubrics with math students to further emphasize the importance of each dimension of successful student work.
- e) we will consider how the different levels/scores via the rubrics may (or may not) align with I/D/M levels of attainment of PLOs. In particular, we know that not all students in a specific course are at the same point in their major. So, some students taking Math 3600, for example, might be doing so as their first advanced proof-based course while others might be completing their degree and have a higher level of maturity. We see this in the generally lower overall scores for “fluency” since this skill will likely be most developed for those students with experience in proof-intensive courses. With the move to semesters, some of the courses currently aligned with mastery will align with developing knowledge attainment.
- f) we will continue to explore ways to support instructors unfamiliar with course content to score student work using the RVF rubric. This is needed as the rubric based scoring is most effective when faculty score student work from courses where they were not the instructor.
- g) As a department, we will discuss ways to support students in mastering the ability to write proofs with fluency. We will establish more common norms in terms of the practice and expectations for attainment of this element of proof writing.