

AAPLO 2015-16

Mathematics Department
(Paul Zeitz)

November 18, 2015

1 Disclaimer/apology/excuse

We have submitted “matrix” assessment reports in past years, where we used selected questions on final exams in selected courses to show how we were addressing various PLOs, but we have not done so in the past few years, while I was chair. Nor were these previous reports ever commented on by whomever we sent them to. That’s OK, since we considered these reports to be a useless exercise.

As you know, our department is not too keen on what we consider to be useless assessment, although we have no wish to be bad citizens (e.g., do anything that would hurt our chances of reaccreditation). In this spirit, our department approved a plan to conduct meaningful assessment with an exit exam. (Limited) details below.

2 Boilerplate description

2.1 Academic Details

Academic year 2015-6, CAS, On-ground

2.2 Program Learning Outcomes Assessment

2.3 Which PLO?

We have, in the past, identified 7 PLOs. Here is a list from one of our (useless) documents: Students completing a degree in mathematics are expected to acquire the ability and skills to:

1. Use techniques of differentiation and integration of one and several variables;
2. Use differentiation and integration to solve problems in mathematics and other disciplines;
3. Solve systems of linear equations;
4. Give direct proofs, proofs by contradiction, and proofs by induction;

5. Formulate definitions;
6. Read mathematics without supervision;
7. Apply mathematics to problems in other disciplines; and
8. Use technology to solve mathematical problems.

We have not written our exit exam yet, so I do not know which PLO we would choose. Realistically, a good exit exam will be able to address several of these. Likewise, we do not yet know how this will map to our ILOs, although most likely it will be a subset of ILO3 (Students construct, interpret, analyze, and evaluate information...), ILO4 (Students communicate effectively in written and oral forms...), and ILO6 (Students use multiple methods of inquiry and research processes...).

2.4 Mode of Assessment

The exit exam will be designed by the math faculty this winter, to be given to all graduating majors. We will supplement the exam with interviews as well.

2.5 Continuous Improvement

This is a new plan, but the idea is to give essentially the same exam each year, with possible modifications depending on outcome, and collect data to track progress. A more likely quick change would be a possibly different set of PLOs, since the current set was designed purely for ease of use in (useless) matrices. Our new essay-oriented approach will attempt to measure more subtle but more useful learning outcomes. In a few years, we may actually have some real, measurable-and-useful data on how effective our program is.