

Campus Assessment of Student Learning Outcomes

Unit Name: Mathematics Assessment Summary Fall 2009-Spring 2010

What are the student learning outcomes in your unit?

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| a) Use mathematical models such as formulas, graphs, and tables to draw inferences.
b) Represent mathematical information symbolically, visually, numerically, and verbally.
c) Use arithmetic, algebraic, geometric, logical, and / or statistical methods to model and solve real world problems. |
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Which outcome did you assess this academic year?

In the fall 2009 we examined data on last six years of mathematics placement exams and concluded that the structure of the exams does not meet the learning needs of our students any more.

We also assessed all three outcomes in the general education course M100 in coordination with General Education/Assessment Committee. We also assessed the same outcomes in

How did you assess their skills before, during and / or at the end of the semester / academic year?
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After surveying math placement exams at several universities we decided to start building our own tests based on the successful IUSB placement exam structure.
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In M100, students needed to pass the pretest or the prerequisite class. They all took the common final and mid – term exams.
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Please summarize the data you have collected this semester / academic year.
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A team of three mathematics faculty in consultation with COAS curriculum chair created a new exam structure and questions for four separate levels of student mathematics preparedness. In July and August of 2010 the Admissions Office tested these exams on 444 students. Data were collected on each question and each student. Individual questions were analyzed by looking at success rate among passing and failing students and need to satisfy specific learning outcomes. Decision was made to improve several questions on Sept 6 th .

In November 2009 six problems (that address mathematical reasoning outcomes) were assessed for a random sample of 30 students (that received C or better in Fall 2006 M100 – Basic Mathematics classes). Three questions were selected from the common Midterm Exam and three from the common Final Exam.

a) DFW rate was 25%

b) 50% of students scored better than 70% (satisfactory) on the six problems and thus achieved
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given outcomes.

c) Students average performance per problem was between 55% and 86% (unsatisfactory to very good)

d) The average Midterm Exam score was 75% (satisfactory) vs. 67% (unsatisfactory) on the Final Exam.

Please describe any programmatic changes you have made or are planning to make based on the data you have collected.

We are working on creation of computer version of placement exams together with IT staff at IUN.

We started offering a “stretch” version of M007 Elementary Algebra in the Spring 2010. Students receive 4 credits for the “stretch M007” class, 2 credits per semester. They participate in short lectures which are followed with problem solving in a computer lab. In addition to an instructor on record, two tutors are helping students in the lab. Preliminary data about student’s success in this class are encouraging and we continue to collect it. We also decreased the number of credits of developmental courses that our students are taking.

For Math M100, based on this assessment, we plan to put more emphasis on problem solving and applications. We already changed the textbook for the class and increased coverage of materials that prepares them for the final exam. We developed and are using supplementary materials to help students prepare for problem solving and applications.

****Note:** Please use this template to provide the responses to the prompts above.**