The University of
Montana

MATHEMATICAL
SCIENCES

Masters Thesis Defense

An Exploratory Study Of First-Year Students' Math Experience At The University Of Montana

by
Sharon O'Hare

My research investigates two aspects of first-year students' math experience at The University of Montana: performance in the course and mathematics placement. The study examined the performance 1,044 first-year students who enrolled in one of six selected 100-level math courses offered by the Department of Mathematical Sciences in the fall of 2005.

Cross-tabulation analysis revealed that a first-year student's ACT or SAT math score is weakly associated with his/her performance in a first semester mathematics course. For the students who take the optional university-administered Basic Algebra placement test; the association is stronger. Generally, students who comply with their recommendation earn a higher average grade than students who enroll in a course above their placement; students who enroll in a course below their recommended placement do even better.

Using a triage analysis technique developed for this study, three distinct groups were identified from a sub-sample of 348 first-year students who had also enrolled in one of two English composition courses during their first year in attendance: Category 1 students succeed in both their first-year mathematics and composition courses, Category 2 students are unsuccessful in both courses, and Category 3 students successfully complete one but not the other of the two courses. Category 3 was further subdivided to separate students who succeed in composition but not mathematics (Category 3A) from students who succeed in mathematics but not composition (Category 3B). Six times as many first-year students are in Category 3A than 3B. The students were then tracked for persistence through the third semester, and a distribution of academic standings developed for each category. The distributions were used to estimate the population of Category 3A students in the entering class of 2005.

Thursday, May 3, 2007

2:10 p.m. in Math 103