

1023-E1-1111 **Zsolt Lavicza** (z1221@cam.ac.uk), University of Cambridge, Queens' College, Cambridge, CB3 9ET, England, **Darryl M Koch** (koch@umich.edu), University of Michigan, 1221 Beal Avenue, Ann Arbor, MI 48109-2102, and **Helen Siedel*** (hsiedel@umich.edu), University of Michigan, 1221 Beal Avenue, Ann Arbor, MI 48109. *Improving engineering student retention by enhancing their mathematical preparation — a case study at the University of Michigan.*

Our data indicate a positive correlation between performance in Calculus I and graduation rate for engineering students. The Minority Engineering Program at the University of Michigan has been operating pre-freshman summer programs targeting underrepresented students to better prepare them for the first-year. Recently, we began a study to assess the effectiveness of the math courses within these programs and to better understand the transition issues for students as they progress from high school math courses to college math courses. We conducted pre- and post-program interviews with student participants, collected student feedback throughout the program, and videotaped math classroom and math study group sessions. We were able to document key transition issues for students and identify approaches to better prepare them for the university math course expectations. The study also suggested strategies that can be employed to work collaboratively with high school math teachers to better involve them in the preparation of students. In this paper we will describe the transition issues we identified, discuss strategies for addressing those issues, both during the summer program and during the academic year, and approaches for working collaboratively with high school math teachers. (Received September 25, 2006)