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Mathematics Immersion for Freshman Engineers (MIFE).

In the past, some engineering departments have been quite content to have math departments filter students for them. Now that enrollments have declined nationwide, there is a need for mathematics to become more of a pump. Our answer at Christian Brothers University is immersion in mathematics. The focus of the program is engineering majors that need work in precalculus. While many of our entering students fall into this category, engineering paradigms begin with Calculus I. As many of the courses in the engineering curricula list the calculus sequence as prerequisites, students that do not take Calculus I the first semester of their freshman year are "off-track" until they take a math course in summer school. We restructured the first semester math experience to include both Precalculus & Calculus I. Students have nine contact hours per week of mathematics earning six hours of credit. We reordered the topics to provide additional reinforcement of key concepts. We believe that students succeed in learning the material with stronger algebraic skills than those taking the traditional route of Precalculus followed by Calculus I. We taught our fourth cohort of MIFE in Fall 2008. In this paper, we share some of our results, successes, and challenges. (Received September 15, 2008)