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A predictor-corrector process with refinement for first-year calculus transition support.

PRIMUS, Probl. Resour. Issues Math. Undergrad. Stud. 18, No. 4, 370-393 (2008).

Summary: We discuss an approach to the critical problem of student retention and the high school-college transition. The context of the discussion is centered on science and engineering students for whom calculus in the first year in college is an essential requirement for on-time graduation. This transition/retention problem has become increasingly critical in light of the much publicized perception that proportionally fewer students arrive in college ready to undertake a serious college calculus course. The article describes the overall approach to this problem adopted at Clarkson University, and then concentrates on one particular aspect: our pre-first year diagnostic testing and summer programs. While these do not represent a complete answer, the statistics support the belief that they have significant positive impact, especially among those students identified as having the greatest need of such reinforcement.

Classification: D75 D45 D65

Keywords: calculus transition; diagnostic testing; transition to college; retention; recovery; remediation; first-year students

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