Some Hard Realities and Difficulties in Undergraduate Math Education

This talk will focus on several crucial areas of concern in undergraduate mathematics education, ranging from very uneven backgrounds among students in the same section of the same course, to time gaps between consecutive math courses and their impact on content retention, to frequent disconnect between performance in one math course and readiness for the next one. Some of the actions that help counteract these realities will be discussed.

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Prof. Milner has devoted the past 40 years to education, mostly of science and engineering students. At ASU he has worked with the Ira E. Fulton Schools of Engineering, the W.P. Carey School of Business and the Mary Lou Fulton Teachers College on the issues of success and retention of freshmen students, and jointly worked on the development of summer "boot camps" that help incoming students who need it to acquire the mathematics skills needed for success in their calculus courses. He has also been the lead faculty in mathematics for the development of the adaptive and online mathematics courses.

Dr. Milner is devoted to mentoring undergraduate and graduate students, having directed women and other under-represented minority students. His expertise in mathematics education includes development of materials for and delivery of online and distance learning courses, as well as design and redesign of mathematics courses for teachers, engineers, and business students. He has published extensively in the areas of numerical analysis and mathematical biology and is presently focusing his research in mathematical ecology, epidemiology, oncology and immunology.