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Beginning with a 21st century view: Technology and modelling with interdisciplinary applications in college algebra.

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Traditional, skills-based college algebra has been taught at Francis Marion University since before the school's establishment as a four-year institution in 1970. The majority of students performed poorly in these skills-based courses. To our more senior faculty in the department and in the university, high failure rates are alarming. Through an analysis of data, we attempt to shed light on the fact that these high failure rates make these entry-level courses unsuccessful. To lessen the impact on our student retention, we established a two-course alternative sequence that uses applications and projects to motivate the college algebra. We integrated real-world problems in the form of projects, applications, and activities to motivate students to better understand the basic principles of algebra. Student performance improved, and feedback from most of the students was positive. Based on the overall positive experience, these two new freshman algebra courses have become prerequisites for other mathematics courses instead of just terminal courses. In this paper, we discuss these courses, our "salesmanship", the interdisciplinary projects we used, and how we integrate technology. (authors' abstract)

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