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Analysis of a Physics Readiness Assessment UT-Austin\textsuperscript{1} SHIN-DELL ORRIN, University of Texas at Austin Department of Physics and Center for Nonlinear Dynamics, JOSH HEBERT, ELAINE LI, University of Texas at Austin Department of Physics, HARRY SWINNEY, University of Texas at Austin Department of Physics and Center for Nonlinear Dynamics — The dropout or failure rate of students in calculus-based introductory mechanics at the University of Texas at Austin has been 20-30 percent over the last decade. We think this rate is too high. Based on our experience with introductory students, we suspected many students entered the course without the mathematical proficiency the course demands. To address this problem we developed a Physics Readiness Assessment Test designed to identify students whose mathematical skills are weak and are therefore likely to struggle in introductory mechanics. The assessment is intended to probe students’ math skills without assuming they have significant prior physics knowledge. Over the past year we have administered our Physics Readiness Assessment to students in introductory mechanics and correlated their assessment scores with their class performances. In this presentation, we will present our findings that mathematical readiness as measured by the Physics Readiness Assessment effectively identifies students who are at a significant risk to dropout or fail introductory physics.

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Shindell Orrin
University of Texas at Austin Department of Physics and Center for Nonlinear Dynamics

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