

Abstract Submitted  
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**A Large-Scale Assessment of Introductory Physics Courses: Development of Laboratory Activities**<sup>1</sup> SESHINI PILLAY, Texas Tech University — While there has long been a general consensus among science researchers and educators that practical work is an essential component of teaching science, there is little agreement about the purposes of undergraduate laboratory courses. The aims of these courses are often manifold and confusingly combined. As part of the reform taking place in the undergraduate physics curriculum at Texas Tech University, we aim to develop laboratory activities which promote students' understanding of the nature of measurement and uncertainty, while providing opportunities for students to apply learned concepts to new situations through experiment and observation. Our goal is to construct a laboratory curriculum which reflects science practice, and highlights the nature of science and the process of scientific inquiry. The activities are based on the probabilistic approach to measurement, and a modelling framework for physics teaching and learning. The development of these activities will be discussed; and examples from an introductory calculus-based laboratory course will be presented.

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