Executive Summary

The undergraduate program in the Department of Physics and Astronomy is on the winning track not only in the area of training high quality students but also in a record breaking number of students who are currently enrolled in the program. This success also brings challenges in teaching advanced physics lab course because of limited lab space and lack of suitable instructional tools and equipment. With this mini-grant proposal, we request fund to implement advanced and low-cost sensor technology in Physics 3300 (Advance Physics Lab). This novel approach will train our students with real-world application skills and will make our program more competitive in innovative instruction and learning both at the national and international level. The success of this project will be evaluated by following up the outcome of the student performance in their senior research projects using techniques and skills learned from this lab. It is also our intention to track the student success in job search or in graduate studies by applying the knowledge of sensor technology and computer interface.