PREFACE

PH 114

This revised lab manual includes new lab experiments and activities made possible by the recent purchase of computers and computer-controlled equipment for use in PH 114 and PH 115 Labs.

The activities are full-fledged experiments that use the computer to record the input from several different types of motion and position sensors. The computer also can control the output of an electrical generator and amplifier. Therefore its possible for you to use computer-controlled equipment that is similar that used in modern research laboratories. The computer-controlled experiments are marked in the table of contents as [A]. The automated experiments include the "Pendulum", "Inclined Plane", "Newton's Law", "Energy Conservation", "Collisions" and "Spring-mass oscillator".

More explanation and theory have been added to most written procedures to make the lab manual stand-alone. We recognize that as the semester goes on, the lab experiments often will be your first introduction on some of this material and often precede the similar topics in lecture. Thus, you'll have the opportunity to learn by doing which should give you a better grasp of the concepts when you do study it in your lecture section.

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