PHY 201/181 Lab Instructor notes
Lab 2: Pendulum Length and Period
Fall 2003

- Point out the light on the photogate.
- Tell the students to check that the pendulum is swinging smoothly and not jumping around on the plate. The pendulum mount must be raised or lowered in order to have the pendulum block the beam when the pendulum is motionless. If the pendulum fulcrum slides on the plate, the tilt of the plate should be slightly adjusted. When the plate of the bearing plate is correct, the weight of the pendulum rests equally on both sides of the knife-edge. Note that the flat side, not the grooved side, of the plate should be used.
- You should probably discuss what is going on in the analysis section using an example that is different than the one in the lab. For instance, take the log of $E = \frac{1}{2}mv^2$ and discuss the resulting linear regrassion.
- Later, when students are graphing, discuss rules for graphs: axes must be labeled, including units in parentheses. They have to figure out the units for the slopes that they calculated. Logarithms have no units.
- When signing notebooks, make sure that students have figured out the right units for the three slopes: most get this step wrong.
- You should put out the two nice rulers for the students to measure length. They stay in the front of the room.

  are to be plugged into the "left" plug on the cables.
- Occasionally, the backspace key does not work when entering data into the physics program. Gnerally, this is because the "Num Lock" key is on.
- The "hit the enter key" to abort doesn't work.