

PHY 202/182 Lab Instructor notes
Lab 3: Direct Current Circuits
Spring 2004

- This lab uses the terminal labels too much. I need to decrease the references to the labels in the lab manual.
- Students have not had Kirchoff's laws in lecture. You should spend five to ten minutes lecturing on them. Do an example for each law.
 1. Be sure to discuss the equivalence of the first law with energy conservation. A conservative force means the work done in a closed loop is zero.
 2. Also, tell them the second law is equivalent to charge conservation.
- Tell the students that they should not connect the meter in "Ohms mode" to a powered circuit.
- I wrote a program `xlinear` to solve a set of linear equations. The idea is that students invariably make mistakes when they set up the equations and the program allows one to correct errors without starting over. You should try it out for yourself before the lab.
- For the last section, student must figure out how to calculate the voltages given the currents. Make sure they get agreement with measured voltages before they leave the lab. This is the only check that they set up the loop equations correctly.
- Put away the multimeters at the end of the lab.