Work Completed:

During this week I have been practicing the ExpressPCB and ExpressSCH by drawing the circuit schematic and circuit board of the EKG that we built last semester. I first started drawing the EKG schematic in the ExpressSCH and then linked it to the ExpressPCB to draw the circuit board. I had to find the datasheet for some of the parts to know the pin spacing on the components. Here is the progress I have made with the circuit board:
I have also been working on the amplifiers for the load cells. I have been reviewing operational amplifiers from two introductory electric circuit books. We will probably be using an instrumentation amplifier which is displayed in the following schematic:

From nodal analysis it has been found that the output voltage of the difference amplifier will be defined by the following equation:

\[ v_{out} = \left(1 + \frac{2R}{R_p}\right)(V_1 - V_2) = k(V_1 - V_2). \]

The following is a picture of the circuit schematic which I built in the senior lab this week.
**Current Status:**

During the past day I have been reviewing operational amplifiers, and I am still working on the EKG circuit board. Today I will also start on the circuit schematic in ExpressSCH for our LCD display.

**Future Work:**

Next week, I plan to continue working on the circuit schematic in ExpressSCH for our LCD display. I will be finishing up the circuit board for the EKG in ExpressPCB. And, I will also start designing the amplifier for the load cells.

**Project Review:**

For this week, I seem to be right on track. Everything seems to be moving as planned. Since last week I have been given an extra task, that of
designing the amplifier circuit for the load cells. My biggest challenge right
now is to be able to design a descent circuit board for the LCD display.

**Hours Worked:** This week I have approximately worked about 15 hours.