These simple exercises are designed to familiarize you with some of the basic features of digital oscilloscopes. This is not a complete introduction to everything you will need to know this quarter, but should be a good start.

Nothing done here need be handed in.

Begin by turning on the scope and the function generator. Connect the output of the function generator directly into channel 1 of the scope. Using the settings on the generator, use it to generate a sine wave of approximately 500 Hz.

Triggering the scope on Ch 1 itself, use the cursors to precisely measure the amplitude and frequency of the generated signal. Write down your answers and show them to me or the TA before moving on.

Place an open banana-to-BNC plug on CH2 of the scope (to get some pickup from CH1. Adjust the amplitude of the generated sine wave to 2V. Trigger the scope on CH1 but look only at CH2. Does what you see make sense?

Adjust the triggering to ‘AC Line’. Can you explain the changes you see?

Using the trigger mode and the run/stop button, set the scope up to acquire single pulse on demand. Do you see what you expect?

Going back to the prior triggering mode and source, set the scope so that the display shows an average over 128 triggers.

Now, instead set the scope so that every trace is kept on the screen (‘persists’) indefinitely.