The Cathode Ray Oscilloscope

1 Objectives

1. To study the operation of an oscilloscope, and
2. To measure DC and AC voltages, and the amplitude and frequency of a waveform with an oscilloscope.

Pre-Lab Exercises

Answer these questions as instructed on Blackboard; make sure to submit them before your lab session!

1. The resistance between the input terminals of an oscilloscope are very large. Does that make it more like a voltmeter or more like an ammeter? Why? Do you make measurements in parallel or in series with the circuit elements?
2. The Oscilloscope has two display axes. What quantities are typically displayed on the two axes in sweep mode? What about in XY mode?
3. Describe how to measure the amplitude of a sine wave signal in sweep mode. How does that differ from the peak-to-peak and RMS voltages?
4. Describe how to measure the frequency of a sine wave signal in sweep mode.
5. What is meant by triggering?

Post-Lab Exercises

1. Format and submit your data and calculation sheets from the lab manual.
2. Discuss briefly whether you have met the objectives of the lab exercises.