Quote of the week: “We know the circuits work, the simulations are the greater experiment.”

Readings for this week: High Frequency Oscillators: pages 1277-1289.

Tasks for this week: Adding a varactor diode to an oscillator to make a voltage controlled oscillator (VCO). Define $K_{vco}$. Now add the SBL-1 phase detector from Lab 1 to make a first order loop.

Introduction to Direct Digital Synthesizers. The exclusive OR gate as a phase detector.

Sketch the schematic and construction details for powering up the POS-100 VCO in the lab kit and looking at the output on the Oscilloscope and Spectrum analyzer with a 50 ohm load.

The Phase Locked Loop as a frequency multiplier. How to build a high performance Phase Locked Loop.

Transistor biasing, the load line, source bias, and failure of analytical models in the world of electronics.

This week in lab: Finish Laboratory 1--introduction to the diode ring mixer/multiplier using the MiniCircuits SBL-1. Begin construction of Lab 2 POS-100.

Note: Graded Homework Exercise -- Oscillators -- due in class April 30