

**PROJECT 1 – PART 2**  
**ECE-723 Spring 2011**

## **Description**

In the second part you will implement in the lab the VCO circuit that was simulated in the first part this project. You will use the components given to you. These components will have to be returned after this project will be graded.

The goal is to measure the frequency for a range for  $v_I$  of 1V...10V with increments of 1V. You will also demonstrate your practical realization to the instructor. Demonstration is scheduled for Wednesday, Feb. 9 2011. However, you can demonstrate it earlier too.

## **Delivarables**

**20 Points:** Demonstration to the instructor.

**30 Points:** Written report with a discussion of:

- (i) Your practical implementation of the VCO. Briefly discuss how it works. Mention/discuss the actual devices that are used. Include also a print out of the triangular and square waveforms for  $v_I = 5V$  as displayed by the oscilloscope. Discuss any issues/problems (if any) that you encountered and how you solved/addressed them.
- (ii) A comparison of your measurements with the simulation results that you obtained in the first part of this project. Include in your discussion a table presenting both data.

**NOTE:** *The due date for both demonstration to the instructor and report is Wednesday, Feb. 9 2011.*