

ECE 3043

Summer 2018 Homework Problem Set 9 for Experiment No. 10

Due First Meeting Week of July 9

The frequency of oscillation for the oscillators that will be designed is the the experimenter's birthday (sans year) in kHz for birthdays prior to July and the birthday divided by two for birthdays from July to December. For instance, if the experimenter was born on May 24 the critical frequency is 5.24 kHz and if the experimenter was born on December 13 the frequency of oscillation is 6.65 kHz.

1. Design a single op amp oscillator. (page 175)
2. Design a triangular wave oscillator. (page 178)
3. Design a INVERTER oscillator. (page 180)
4. Design a 555 oscillator. (page 181)

Simulate 1 & 2 designed above with both National Instruments (Multisim) and LT SPICE. Simulate 4 with Multisim. Don't simulate 3; just calculate the component values.

(There are no Matlab or Mathcad assignments for this homework. Nonlinear circuits don't have transfer functions.)

Each of these oscillators will be built in lab.