## EE 204- Analog Electronics

All Lab experiments require one workstation for each student group (2 students per group) with following equipment.

There are 150+ students in this course and we need 75+ workstations. From last year’s lab information, we can use 3 labs 101, 102 and 103 to accommodate all students in the same time slot. Lab assistants (as per MIEC policy) are required to guide, monitor and communicate with the teacher.

**Equipment:**

* Oscilloscope
* Signal Generator
* Dual Power Supply
* Multimeters (two required)
* Student lead kit containing breadboard, test leads, etc.

Following components to be purchased for these lab experiments.

**Components: (buy in bulk in case we need more)**

* Various Resistors (1k, 3.3,10k ohm)- assorted sizes- 1000 pieces
* Capacitors (1μF, 10μF, 100nF)- assorted sizes- 500 pieces
* LEDs (200 pieces)
* N-Channel and P-Channel MOSFETs (we use ZVN2106 and ZVP2106) -500 pieces each type
* LM741 OpAmp – 300 pieces

## Lab Number: 1

## Title: Characteristics of the FET Transistor

**EQUIPMENT**

2 voltage sources, voltmeters, ammeter, a laboratory lead kit

Resistor = 1k Ohm, NMOS- ZVP2106

## Lab Number: 2

## Title: The CMOS Inverter

**EQUIPMENT**

Power supplies

Voltmeter/Ammeter

2 MOSFETs (N and P) ZVP3306A, ZVN3306A, 2 LEDs, 2 1k resistors, 1uF capacitor.

Breadboard

Three co-ax connectors

## Number: 3

## Title: Biasing a FET Transistor

**EQUIPMENT**

A voltage source, voltmeters, a laboratory lead kit

A signal generator and an oscilloscope

N-Channel and P-Channel MOSFETs (ZVN2106 and ZVP2106)

Resistor-1k Ohm

## Number: 4

## Title: The FET Amplifier

**EQUIPMENT**

Power supplies

Voltmeter/Ammeter

N-Channel and P-Channel MOSFETs (ZVN2106 and ZVP2106)

Resistors

Breadboard

Three co-ax connectors

## Number: 5

## Title: The Operational Amplifier

**EQUIPMENT**

Power supplies

741 Op‑Amp

Assorted Resistors

Function Generator

Digital Multimeter

## Number: 6

## Title: The Operational Amplifier - Filters

**EQUIPMENT**

Power supplies

741 Op‑Amp

Assorted Resistors and Capacitors

Function Generator

Digital Multimeter