ECE 232

# Lab

**Transformers**

**Objective:**

1. To learn how real world transformers operate under ideal conditions.
2. To learn what happens to the output voltage when the transformer is loaded.

**Preliminary Work:**

1. Consider the **ideal transformer** shown in Figure 1.



**Figure 1**

* 1. Show the relation between $V\_{1, } V\_{2, } I\_{1, } and I\_{2, }$
	2. If V$=220 V AC, V\_{2}=6 V and Power=100 VA$ , calculate$ V\_{1} and n.$
	3. If $ V\_{2}=12 V . $Calculate $V\_{1 }and n$.

 

**Figure 2**

a)Determine the T equiavalent circuit of the **linear transformer** in Fig 2**3)** Determine the Π equivalent circuit of an **linear transformer** shown in Figure 3.



**Figure 3**

**EXPERIMENTAL WORK**

1. Set up the circuit of Figure 2. Adjust the sine wave output of the signal generator so that Vin(t) is a sine wave with 50Hz frequency.

2)Determine the complex power for the primary winding.