**ECE 370**

**HW SET #1**

1. A 60-Hz ideal transformer is rated 240/120 V. This transformer is connected to a 240 V source, and a load of ZL = 2 + j20 Ω is connected to the low voltage (output) side. Calculate:
   1. Output (load) current
   2. Output (load) real power
   3. Output (load) reactive power
   4. Output (load) apparent power
   5. Output (load) complex power in rectangular and polar forms
2. A 50-Hz ideal transformer is rated 240/120 V. This transformer is connected to a 240 V source, and a load of ZL = 2 + j20 Ω is connected to the low voltage (output) side. Calculate:
   1. Load impedance referred to the high voltage (source or input) side
   2. High side current
   3. Real power supplied by the source
   4. Reactive power supplied by the source
   5. Apparent power supplied by the source
   6. Complex power supplied by the source in rectangular and polar forms