

## Master Syllabus

### EET 1155 - AC Circuits

**Division:** Science, Mathematics and Engineering

**Department:** Electronics Engineering Technology

**Credit Hour Total:** 3.0

**Lecture Hrs:** 2.0 **Lab Hrs:** 2.0

**Prerequisite(s):** EET 1150

**Date Revised:** February 2015

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### Course Description:

Sinusoidal wave properties, complex numbers and phasors, behavior of transformers, steady-state behavior of RC circuits under AC conditions, steady-state behavior of RL circuits under AC conditions, steady-state behavior of RLC circuits under AC conditions, analysis of basic filter circuits, AC network theorems such as superposition, Thevenin's and Norton's theorems, three phase and polyphase power and power factor analysis. Two classroom, two lab hours per week.

### General Education Outcomes:

- Critical Thinking/Problem Solving Competency

### Course Outcomes:

#### AC relationships

Apply knowledge of AC relationships and concepts when working in an AC environment.

**Assessment Method:** Locally developed exams

**Performance Criteria:**

Obtain 70% or better

#### Measurements

Use AC multimeter and oscilloscope to properly make measurements.

**Assessment Method:** Performance appraisals

**Performance Criteria:**

Score "17.5" or greater on a five by five rubric

#### Schematic and circuit relationships

Use the information on the schematic to identify and assess circuits and components.

**Assessment Method:** Locally developed exams

**Performance Criteria:**

Earn 70% or higher

#### Technical communication

Communicate technical information orally and in writing with peers and others.

**Assessment Method:** Performance appraisals

**Performance Criteria:**

Score "17.5" or greater on a five by five rubric

### Outline:

Sinusoidal wave properties  
Complex numbers and phasors  
Steady-state behavior of RL, RC, and RLC AC circuits  
Analysis of filters  
Behavior of transformers  
AC network theorems such as Superposition, Thevenin's and Norton's  
Power factor analysis  
Polyphase power  
Magnetics and magnetic devices