# ELEC 1150 SYLLABUS

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC 1150</td>
<td>Electrical Theory II</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credit Value (Breakdown of theory and lab credits)</th>
<th>4 (4 Theory)</th>
</tr>
</thead>
</table>

## Catalog Course Description

This course exposes students to electrical fundamental and basic AC circuits. Students learn inductance/inductors and capacitance/capacitors. Students learn about RC, LC, RCL circuits in series and parallel. Finally, students can analyze and work safely with these types of AC circuits.

Pre-requisites: ELEC 1140

## Student Learning Outcomes/Objectives /Competencies of the Course

### Outcomes
- Explain differences between DC and AC circuits.
- Explain what inductance and capacitance is.
- Calculate and analyze RC, LC, RCL (series and parallel) circuits.
- Identify and work with RC, LC, RCL (series and parallel) circuits.

### Topics
- Understanding vectors and how to use them effectively
- Comparing direct current to alternating current
- Making circuit calculations for basic systems
- Becoming familiar with AC resistive circuits
- Understanding the basic characteristics of AC circuits
- Understanding inductance and how it affects a circuit
- Working with inductors that are in series and/or parallel
- Becoming familiar with inductive reactance
- Understanding capacitance and how it affects a circuit
- Working with capacitors that are in series and/or parallel
- Becoming familiar with capacitive reactance
- Comprehending the parameters of series RL circuits
- Comprehending and analyzing series RLC circuits
- Understanding and working with parallel RL circuits
- Comprehending and analyzing parallel RLC circuits
- Identifying and working with LC circuits
- Comparing series and parallel RLC circuits
- Analyzing and working with combination RLC circuits
- How current reacts in DC combination circuits
- How voltage functions in DC combination circuits
- How to calculate power in DC combination circuits
- How voltage and current dividers work
- The design and operation of the 3-wire, single-phase system
<table>
<thead>
<tr>
<th>College-Wide Student Learning Outcomes</th>
<th><strong>College Wide Student Learning Outcomes:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Communication</td>
</tr>
<tr>
<td></td>
<td>Critical Thought</td>
</tr>
</tbody>
</table>