



ELEC 1140 SYLLABUS

Course Number Course Name	ELEC 1140 Electrical Theory I
Credit Value (Breakdown of theory and lab credits)	4 (4 Theory)
Catalog Course Description	This course exposes students to electrical fundamental and basic DC circuits. Resistance and Ohm's law are covered as well as series, parallel, and combinatorial circuits are covered. Calculations of power and understanding of current and voltage in all these circuits is covered including voltage and current divider circuits. Students learn how to draw circuits and understand the hazards of energized circuits. Pre-requisites: None
Student Learning Outcomes/Objectives /Competencies of the Course	Outcomes <ul style="list-style-type: none"> • Explain the concept of electron movement and the nature of electricity. • Apply Ohm's law as it pertains to direct current circuits. • Calculate and solve direct current series circuit problems. • Calculate and solve direct current parallel circuit problems. • Calculate and solve direct current series-parallel circuit problems. Topics <ul style="list-style-type: none"> • What is electricity? • Electrical energy sources • Electrical switches • Conductors, conductor resistance, and wattage Loss • Current, voltage, and resistance in a circuit • The electrical circuit and ohm's Law • Power in a circuit • The series circuit • Understanding and calculating resistance in DC series circuit • How current reacts in DC series circuits • How voltage functions in DC series circuits • How to calculate power in DC series circuits • Understanding and calculating resistance in DC series circuits • How current reacts in DC series circuit • How voltage functions in DC series circuit • How to calculate power in DC series circuit • How current reacts in DC parallel circuits • Understanding resistance in DC parallel circuits • Working with rations and proportion • How voltage functions in DC parallel circuits • Howe to calculate power DC parallel circuits • Understanding resistance in DC combination circuits



	<ul style="list-style-type: none">• 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• Energized circuits and the potential hazards they possess• How to draw basic electrical circuits• Introduction to test instruments
College-Wide Student Learning Outcomes	<i>College Wide Student Learning Outcomes:</i> Communication Critical Thought