Electricity and Circuits Learning Outcome and Objectives Review

# Use (apply) electrical related equipment safely

* Voltmeter
* Ammeter
* Ohmmeter
* Hydrometer
* megohmmeter
* Battery capacity tester (load tester)
* Multimeter
	+ Voltage
	+ Resistance
	+ Current
	+ Continuity
* **IV curve tracer?**
* Insulated tools
* Face guards
* Chemical goggles
* Eye wash
* Gloves
* Aprons

# Recognize/identify (understand) potential associated risks/hazards with electricity and methods to mitigate/reduce injury

* Electrical shock/hazard
* Arc flash
* De-energization plan
* Lockout/tagout
* Ground fault
* Fire
* Static electricity shock
* Batteries
* Energized equipment
* Faulty equipment

# Recognize (understand) electrical concepts and terminology

* Electric charge
* Efficiency
* System power
* System losses
* Ohm’s law
* Power and energy
* Electrical measurements
	+ Voltage
	+ Current
	+ Impedance
	+ Resistance
	+ Conductance
	+ Resistivity
* Direct current (DC)
* Series and parallel circuits
* Circuit diagrams
* Properties of common conductors
	+ Insulation types
		- PV wire
		- USE-2
		- THWN-2
	+ Size
	+ Ampacity rating
	+ Voltage ratings
	+ Color
	+ Temperature ratings
	+ UV resistance
	+ Moisture rating
* Types of common multi-conductor cables
	+ Romex
	+ MC
	TC
* Grounding and bonding terminology
	+ equipment grounding conductor
	+ grounding electrode conductor
	+ grounding electrode
	+ bonding jumper
* Voltage ratings
* Current ratings
* Overcurrent protection devices
* Batteries

# Solve theoretical electrical problems using mathematical formulae and sound logic.

* Electrical loads
* System performance
* Series and parallel circuits
* Overcurrent protection
* Circuit diagrams
* Reading equipment data sheet
* Circuit analysis