

Exam I will cover the material presented in the following PowerPoints (that are available on the course webpage):

- 00 - Electric Fundamentals**
- 01 - Basic DC Circuits**
- 02 - Wires and Conductors**
- 03 - Series/Parallel Electric Circuits**
- 04 - Ground & Node Voltages**
- 05 - Switches, Pushbuttons, Relays**
- 06 - Inductors and Capacitors**

This includes, but is not limited to, the following topics:

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| <ul style="list-style-type: none"> 00 - Electric Fundamentals Electric Fundamentals Charge Current (Positive vs. Negative Charge Flow) Electric Fields Voltage Batteries 01 - Basic DC Circuits Electric Circuits Sources & Loads Ideal Voltage Sources Wires & Conductors Ideal Wires Resistors Ohm's Law DC Circuits (Steady-state Operation) Electric Energy & Electric Power Series-connected DC Circuits Series Equivalent Resistance Kirchhoff's Voltage Law Voltage Divider Equation Parallel-connected DC Circuits Parallel Equivalent Resistance Kirchhoff's Current Law Current Divider Equation 02 – Wires & Conductors Wires, Conductors & Cable Wire Sizes American Wire Gauge (AWG) Circular Mils | <ul style="list-style-type: none"> Wire Types Solid vs. Stranded Copper vs. Aluminum Insulated Conductors NOT COVERED Ampacity NOT COVERED 03 - Series/Parallel Electric Circuits Series/Parallel Combination Circuits Reduce & Return Approach 04 - Ground & Node Voltages Ground Node Voltages 05 - Switches, Pushbuttons, Relays Switches SPST & SPDT Switches Circuit Operation with Switches Push-Buttons Normally-Open (NO) & Normally-Closed (NC) Circuit Operation with Push-Buttons Relays Components (Field Coil, NO & NC Contacts) Fuses & Circuit-Breakers NOT COVERED 06 - Inductors and Capacitors Inductors & Capacitors Voltage-Current Relationships DC Steady-State Operation DC Transient Operation NOT COVERED R-L and R-C Time-Constants NOT COVERED |
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Be sure that you understand both the theory/concepts relating to the above topics and the equations associated with the above topics.