

Electronics

ELT 101

Basic Electricity [RE] • 5.0 Credits

This course provides an introduction to the basic concepts of electricity including series and parallel circuits, AC and DC currents, transformers, resistance, capacitors, multimeter use, and troubleshooting.

ELT 111

Introduction to Electricity [RE] • 5.0 Credits

Introduction to the basic concepts of electricity, electrical fundamentals, and electronics. Includes AC and DC currents, heaters and heat tracing, electrical supply and control components, and electronic systems.

Prerequisite: A grade of 2.0 or better in MATH 50, 70, or 72, or a grade of 0.7 or better in a higher math class, or appropriate placement.

ELT 124

Direct Current Circuits [RE] • 5.0 Credits

Basic principles of electricity and the applications of the fundamental laws to direct current networks. A study of electrical components, magnetism, inductance, capacitance, and elementary network analysis.

ELT 134

Alternating Current Circuits [RE] • 5.0 Credits

Fundamental principles of alternating current: sinusoidal and non-sinusoidal. A study of impedance, phase shift, coupling networks, transformers, and series and parallel resonance using standard vector notation. **Prerequisite: Completion of ELT 124 with a 0.7 or higher.**

ELT 154

Semiconductors and Op Amps [RE] • 5.0 Credits

Introduces semiconductor devices and associated circuits with diodes, special purpose diodes, and various types of transistors (BJT, FETs, Thyristors, etc.), then concludes with Operational Amplifiers (Op Amps). Circuit application and troubleshooting is applied with all components.

Prerequisite: Completion of ELT 134 with a 0.7 or higher.

ELT 171

Digital Fundamentals [RE] • 5.0 Credits

Builds upon basic instrumentation and control knowledge and skills from previous classes. Focuses on developing the knowledge and skills in number systems, digital logic circuits, implementation technology and logic functions, arithmetic circuits, and sequential logic circuit building blocks. **Prerequisite: Completion of ELT 154 with a 0.7 or higher.**

ELT 199

Special Studies [RE] • 1.0–15.0 Credits

A class used to explore new coursework.

ELT 201

Basic Electronics [RE] • 5.0 Credits

This course covers the concepts of electrical fundamentals and electronics including Ohm's and Kirchoff's Laws; series, parallel, and compound circuits; motors, relays, switches, inverters, converters; power distribution, wiring and routing; soldering, terminals, splicing; and troubleshooting.

ELT 211

Applied Electronics [RE] • 5.0 Credits

Broad-based course designed to apply knowledge and skills to the maintenance and operation of electrical components related to power plant instrumentation and controls. **Prerequisite: Completion of ELT 124 with a 0.7 or higher.**