

**Contact KC Workforce Development for course beginning dates**  
**903-983-8288 or [bjbrown@kilgore.edu](mailto:bjbrown@kilgore.edu)**

**Industrial Electrical Technology Certificate**  
**Course Descriptions**

**Industrial Electricity**

12 weeks, 36 hours

(IEIR 1014 – Basic Industrial Electricity)

This course covers the theory and application of electrical energy. Topics include AC and DC theory, voltage, current, resistance, power, electrical values for series, parallel and combination circuits, electrical generation, transmission, and distribution and switching. **Textbooks required.**

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**Electrical Power Distribution**

16 weeks, 48 hours

(ELPT 2039 – Electrical Power Distribution)

The course covers the design, operation, and technical details of modern power distribution systems including generating equipment, transmission lines, plant distribution, and protective devices. Topics include calculations of fault current, system load analysis, rates, and power economics. **Textbook required.**

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**National Electric Code (NEC)**

8 weeks, 16 hours

(ELPT 1001 – Electrical Code)

This course is a study of the electrical requirements specified in the National Electric Code (NEC). Topics will include the minimum requirements for approval of electrical installations. **Textbook required.**

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**Electrical Controls**

4 weeks, 24 hours

(ELPT 1002 – Introduction to Electrical Controls)

This course covers the general principles of electrical controls and their components in the electrical power industry. Topics include reading electrical diagrams and identifying industrial switches and pilot devices. **Textbook required.**

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**Electrical Blueprint Reading**

12 weeks, 36 hours

(DFTG 1023 – Electrical Blueprint Reading)

This course is an overview of electrical blueprint reading as it pertains to the applicable sections of the 2008 National Electric Code. **Textbook required.**

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**Electric Motors**

8 weeks, 48 hours

(IEIR 1006 – Electric Motors)

This hands-on course covers the fundamentals of single phase and three phase alternating current motors and direct current motors including operating principles, characteristics, application, selection, installation, maintenance, and troubleshooting. **Textbook required.**

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<b>Electro-Hydraulics</b> (HYDR 1091 – Electro-Hydraulics)	24 hours
<b>Industrial Automation</b> (ELPT 2049 – Industrial Automation)	48 hours
<b>Industrial Wiring</b> (ELPT 1057 – Industrial Wiring)	64 hours
<b>Programmable Logic Controllers</b> (ELPT 1003 – Programmable Logic Controllers)	24 hours
<b>Troubleshooting Electrical Systems</b> (EECT 2043 – Troubleshooting Electrical Systems)	24 hours

**Recommended Prerequisites:**

ELPT 1015 – Electrical Calculations (36 hours)  
HYDR 1091 – Hydraulics School (16 hours)

*Individuals who successfully complete all courses in this certificate will be eligible to receive a Marketable Skills Achievement Award.*