2018-2019 TTC Catalog - Electrical Line Worker (ELW)

ELW 110 - Electrical Computations

Lec: 1.0 **Lab:** 3.0 **Credit:** 2.0

This course introduces the fundamental applications of mathematics that are used by an electrical line technician. Topics include whole numbers, fractions, decimals, powers, roots, simple electrical formulas and usage of a scientific calculator.

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 111 - Introduction to Electrical Line Worker

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course introduces basic principles of electricity, safety standards and basic line worker tools. Topics include electrical distribution systems and components, line installation and maintenance applications.

Prerequisite

ELW 110

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 112 - Introduction to Electricity

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course introduces the fundamental concepts of electricity and test equipment to non-electrical/electronics majors. Topics include basic DC and AC principles, components and operation of test equipment.

Prerequisite

ELW 110

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 113 - National Electrical Safety Code

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course covers the use of the current National Electrical Safety Code. Topics include terms, basic components meters, overhead and underground line construction and maintenance procedures.

Prerequisite

ELW 112

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 114 - Overhead Line Construction I

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course introduces the basics of overhead power line construction. Topics include safe work habits, protective equipment and pole-climbing techniques.

Prerequisite

ELW 111

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 115 - Overhead Line Construction II

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course introduces overhead line maintenance, construction, and framing as well as the safe working practices and procedures for working off a pole using hooks.

Prerequisite

ELW 114

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 116 - Overhead Line Construction III

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course introduces the phase of energized line work, including the use of aerial lifts and the application of rubber protective equipment.

Prerequisite

ELW 115

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 117 - Overhead Line Construction IV

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course introduces regulators, transformer connections, reclosures, fuses, lightning arresters and troubleshooting of primary and secondary outages.

Prerequisite

ELW 116

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 211 - Underground Line Construction I

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course introduces underground line distribution systems, including terminators, elbows, transformers, underground installations and safety practices.

Prerequisite

ELW 111

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 212 - Underground Line Construction II

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course covers troubleshooting of underground systems and associated equipment including fault locating, single and three-phase enclosures, and overhead/underground terminations.

Prerequisite

ELW 211

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 221 - Advanced Line Construction

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course introduces advanced line construction concepts, including worksite safety practices, excavations, digital paneling for regulators and reclosure, lightning protection and traffic control devices.

Prerequisite

ELW 117

and

ELW 212

Grade Type: Letter Grade

Division: Engineering and Construction

ELW 231 - Electrical Power Systems

Lec: 2.0 **Lab:** 3.0 **Credit:** 3.0

This course covers the basic principles of electrical power systems, including transmission lines, generator and transformer characteristics, fault detection and correction, interpretation of line diagrams, and performance of per unit calculations for circuit performance analysis.

Prerequisite

ELW 112

Grade Type: Letter Grade

Division: Engineering and Construction
