ELECTRICAL UTILITY TECH (ELUT)

ELUT 121, OVERHEAD LINE TECHNOLOGY I 6 (14)
This course shall provide the student with the knowledge and skills to perform work on secondary voltage circuits, focusing primarily on installation of services, street lighting and secondary circuits. Utilizing a digger derrick, the student will also learn to set wooden poles, transformers, and install anchors. Pole framing techniques and quying methods will be learned. An overview of transmission and distribution of electrical systems, Occupational Safety and Health Administration (OSHA) topics, rigging safety awareness and basic electricity are discussed. Safety requirements will be included throughout the course of instruction. Divisional approval required for registration in this course. Laboratory required. (A special fee will be assessed.)
Course Entry Requirement(s): Prerequisite: Divisional approval
Typically Offered: Not offered this year

ELUT 122, OVERHEAD LINE TECHNOLOGY II 6 (14)
This course shall provide the student with the knowledge and skills to properly install three phase primary conductors. The student will be instructed in the installation and operation of line fuses, reclosers, transformer power banks, capacitors and line voltage regulators. The student will be able to identify, install and maintain underground residential distribution (URD), secondary equipment, including proper methods of installing box pads, singe phase transformers, primary elbows and terminators. Safety requirements will be included throughout the course of instruction. Laboratory required.
Course Entry Requirement(s): Prerequisite: ELUT 121 and divisional approval
Typically Offered: Not offered this year

ELUT 123, SUBSTATION TECHNOLOGY I 6 (14)
This course provides the student with the knowledge and skills to perform maintenance in electrical substations and switchyards, and to understand and apply the proper techniques for operation of power and hydraulic tools for conduit forming and cable tray layout. The course includes training in the operation of substation ground maintenance vehicles, rigging, and construction of substation and switchyard facilities. Occupation Safety and Health Administration (OSHA) and rigging safety awareness requirements will be included. Laboratory required.
Course Entry Requirement(s): Prerequisite: Divisional approval
Typically Offered: Not offered this year

ELUT 124, SUBSTATION TECHNOLOGY II 6 (14)
This course provides the knowledge and skills to safely perform maintenance in electrical substations and switchyards, and to understand and apply the proper techniques for cable pulling, bus work, as well as the installation of substation conductors, switches, and ground connections. The course includes electrical skills training as applied to the operation and installation of batteries, fuses, transformers, regulators/reclosers, circuit breakers, capacitors in the substation. Also included are the proper lockout/tagout principles and techniques. Laboratory required.
Course Entry Requirement(s): Prerequisite: ELUT 123 and divisional approval
Typically Offered: Not offered this year

ELUT 221, OVERHEAD LINE TECHNOLOGY III 6 (14)
This course provides the student with the knowledge and skill to identify, install and maintain primary underground residential distribution (URD) equipment and different styles of sub-transmission support structures used in the distribution systems. Also covered are the techniques and proper use of hot-line tools to work sub-transmission and distribution structures when laying out conductors and changing various insulators. Various methods of troubleshooting URD primary and secondary circuits are discussed and demonstrated. Students will perform various tasks, while working on an energized three-phase circuit under controlled conditions with applicable safety requirements. Laboratory required. (A special fee will be assessed.)
Course Entry Requirement(s): Prerequisite: ELUT 122 and divisional approval
Typically Offered: Not offered this year

ELUT 222, OVERHEAD LINE TECHNOLOGY IV 6 (14)
This course provides the student with the knowledge and skill to safely climb transmission support towers and H-structures. While aloft on these pertinent structures, the student will gain basic skills to perform intermediate tasks. The student will learn and gain experience on substation equipment and one line drawing. Emphasis will be placed on recognizing energized equipment, minimum approach distances and substation safety in general. At the conclusion of the course, the student will be qualified to enter a substation. Included in this course are Lockout/Tagout, Master Drive, Topical Safety, Comprehensive Skills Review and a Safety Fair. Laboratory required. (A special fee will be assessed.)
Course Entry Requirement(s): Prerequisite: ELUT 221 and divisional approval
Typically Offered: Not offered this year

ELUT 224, SUBSTATION TECHNOLOGY III 6 (14)
This course provides intermediate level training in the electrical skills required for the installation and maintenance of batteries, fuses, transformers, and regulators according to Substation Preferred Practices. The course includes the knowledge and skills to safely perform maintenance in electrical substations and switchyards, apply the proper cable pulling and bus work techniques, installation of substation conductors, as well as switching and grounding techniques. An in-depth study and practice of lockout/tagout procedures is included, as well as battery impedance testing. The daily maintenance procedures for sub station power transformers are practiced, including TTR testing, TCG/o2 testing and oil dielectric testing DGA sampling.
Course Entry Requirement(s): Prerequisite: ELUT 124 and divisional approval
Typically Offered: Not offered this year

ELUT 225, SUBSTATION TECHNOLOGY IV 6 (14)
This course provides the advanced knowledge and skills to safely perform high level maintenance in electrical substations and switchyards according to the Substation Preferred Practices. The course includes the understanding and application of the proper cable pulling and bus work techniques, installation of substation conductors, as well as switching and grounding techniques. Advanced electrical skills training as applied to the operation and installation of batteries, fuses, transformers, regulators/reclosers, circuit breakers, and capacitors is included, with an in-depth study of fault-load interrupting equipment. The course covers the inspection of oil circuit breakers, including circuit profilers training, circuit breaker control schemes, circuit breaker time travel and analysis. Laboratory required.
Course Entry Requirement(s): Prerequisite: ELUT 224 and divisional approval
Typically Offered: Not offered this year