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Electrical Power Distribution Program

Course Curriculum

Semester 01 (Tuition: \$2,620)

Course #	Course Title	Credits
31-413-303	Electric Power Distribution Fund 1A	4
Credits: 4 Lecture Hours: 36 Lab Hours: 108		
The student is introduced to basic electrical theory using Ohm's Law to analyze series, parallel and combination circuits. Concepts of work, power, energy, and magnetism will be studied. Student learns basic line construction materials such as insulator design, pole information, and wire size and resistance, with hands on practice on communication signals for line workers. Students will be introduced to GPS and its applications to onsite work. Throughout the course there is an emphasis on safety for line workers.		
31-413-304	Electric Power Distribution Fund 1B	4
Credits: 4 Lecture Hours: 36 Lab Hours: 108		
The student is introduced to basic A.C. circuits and advances to A.C. circuits with induction and capacitance. The course includes A.C. parallel circuits with resistance, inductive reactance and capacitive reactance. The student learns guying and anchoring concepts. Throughout the course there is an emphasis on safety for line workers.		
31-413-305	Electric Power Dist Fund 1C-App Lab	5
Credits: 5 Lecture Hours: 0 Lab Hours: 180		
The student is introduced to power line construction techniques including staking/overhead line design, overhead structure specifications, overhead distribution line construction and stringing/sagging overhead line conductors. The course includes basic hydraulics and line truck operation. Ropes, knots, and splices associated with the line workers trade will be learned and used throughout the course. Electrical connectors will also be covered. Students will learn aerial climbing tools and techniques. The student uses electrical test equipment and hand and power tools associated with the line workers trade. Throughout the course there is an emphasis on safety for line workers.		
31-804-305	Applied Mathematics	2
Credits: 2 Lecture Hours: 72		
Students compute with rational numbers. They make and convert various measurements. Students use formulas to solve problems. They compute dimensions of geometric shapes. Students use statistical tools to represent and analyze data. They analyze various financial situations. Students use basic right triangle trigonometry to solve problems. In each topic area, students solve application problems.		

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Semester 02 (Tuition: \$2,860)

Course #	Course Title	Credits
10-105-110	Computer Applications	1

Credits: 1 Lecture Hours: 0 Lab Hours: 36

At the end of this course, the student will be familiar with the use of a word processor, a spreadsheet, the Internet and email, and file management. The student will know the basics of each application and be able to create professional-looking documents. The student will be able to apply these applications to their field of study also.

10-620-156 Fiber Optic Cabling Technician 1

Credits: 1 Lecture Hours: 9 Lab Hours: 18

This course will introduce the learner to the essential knowledge, skills, and abilities required to install and configure fiber optic networking infrastructure in an industrial plant setting. Major topics of study include: using light to transmit information, fiber types, fiber preparation, fiber termination, fiber splicing, fiber inspection and testing, and safety issues and procedures unique to the fiber optic industry. Learners will practice the skills necessary to select, install, terminate, splice, inspect, and test fiber optical cables to EIA/TIA standards using industry standard tools and procedures. This course is a recommended preparation activity for those interested in pursuing the Fiber Optics Association (FOA) Certified Fiber Optic Technician (CFOT) written and hands-on certification exam.

31-413-306 Electric Power Dist Fund 2A 4

Credits: 4 Lecture Hours: 36 Lab Hours: 108

The student is introduced to the theory of three-phase electrical power systems, including wye and delta systems. Student studies single- and three-phase transformer; construction, principles of operation, connections as well as secondary power supply systems. Skills in electrical system grounding principles and over voltage equipment will be developed. Safety topics related to electrical line work will be highlighted. Prerequisites: Electric Power Distribution Fund 1A (31-413-303)

31-413-307 Electric Power Dist Fund 2B 4

Credits: 4 Lecture Hours: 36 Lab Hours: 108

The student is introduced to electrical power line apparatus such as; over current equipment, voltage regulators and kilowatt hour meters. Components and functions of an electrical substation, underground distribution systems, street lighting equipment, along with the sources of communication interference from electrical sources. Safety related topics are included. Prerequisites: Electric Power Distribution Fund 1B (31-413-304)

31-413-308 Electric Power Dist Fund 2C-AppLab 4

Credits: 4 Lecture Hours: 0 Lab Hours: 144

The student integrates lab concepts in advanced levels of topics such as; aerial climbing, rope knots and slices, electrical connectors, electrical test equipment, as well as hand tools. Application and installation of various electrical apparatus in a lab environment is completed by the students. Overhead transmission structures are constructed, protective grounding is introduced and live line work such as; rubber gloving and hot stick use is practiced (de-energized lines). Underground related equipment is introduced including cable terminating tools and cable locating equipment. Student installs UD cable and terminate cable. Student also operates a modern combination trencher-cable plow. Safety for the various lab activities is stressed. Prerequisites: Electric Power Dist Fund 1C-App Lab (31-413-305)

31-801-310 Workplace Communication 2

Credits: 2 Lecture Hours: 72

Students apply oral, written, listening, and non-verbal skills to workplace situations. Students discover how to use communication as the key to solving workplace problems, resolving conflicts, working as members of a team, and effectively giving and receiving criticism. Students develop an understanding of diversity in the workplace, harassment issues, and the impact of substance abuse on the job.

Total Credits: 31

Estimated Total Tuition*: \$5,480

Tools/Equipment: \$2,850