MANHATTAN TECH

manhattantech.edu/epd

ELECTRIC POWER AND DISTRIBUTION

PROGRAM **DESCRIPTION**

The Electric Power and Distribution program enhances students' knowledge and technical skills required to succeed in the electrical distribution industry. Graduates of the Electric Power and Distribution program will be able to successfully install, maintain, and operate electrical systems to supply electrical energy to residential, commercial, and industrial customers and to join gas and electrical underground generation facilities.

The EPD program provides the training needed to construct, operate, and maintain power line equipment. This program is one of only a handful in the United States that has open admission to the public. The program begins in January of each year; a summer internship is required.

PROGRAM **OUTCOMES**

- Develop the necessary skills to gain entry-level employment in the electrical field. perform operational and maintenance duties within critical environment facilities.
  - Demonstrate the ability to: Operate line equipment, Build and maintain overhead and underground power lines, Install transformers, capacitors, and KWH meters, Tie rope knots, Operate hydraulic equipment such as aerial lift trucks, digger/derrick trucks, and trencher, Successfully complete an internship in the electric power and distribution field.
- Develop industry-wide safe work practices per American Public Power guidelines.
  - Attain certification in both American Red Cross CPR and First Aid courses
  - Understand Occupational Safety and Health Act requirements and rules
  - Master climbing wood pole structures with and without the use of a pole safety strap
  - Use protective equipment such as fuses, circuit breakers, and lightening arrestors
- Effectively communicate both verbally and in writing.
  - Demonstrate oral communication skills by participating in a simulated job interview and receiving an acceptable rating from the interviewer
  - Prepare a résumé
  - Adapt behaviors to function productively as a team member in the workplace
- Develop the mathematical skills necessary to calculate electrical loads, weights, and measures.
  - Know and apply appropriate mathematical functions for the field (e.g., Ohm's Law, Pythagorean Theorem).

ADMISSION REQUIREMENTS

- Applicants must be 18 years of age prior to beginning the program in January
- Verification of a Class A Commercial Drivers' License (CDL) by submitting a copy of current, valid CDL license with manual endorsement
- College Placement Assessment Criteria

The mandatory cost of a required instrument kit will be added to student accounts during the semester the charges are incurred.

Electric Power and Distribution Curriculum

Associates in Applied Science

63 Credit Hours

Technical Specialty Courses

48 Credit Hours

COURSE NO.	COURSE TITLE		CREDITS
Spring Semester			
EPD 101	OSHA 10 ••	***Cert C***	1
EPD 103	Basic Electricity	***Cert C***	1
EPD 105	Climbing Skills	***Cert C***	4
EPD 110	Pole Framing & Construction Specifications	***Cert C***	4
EPD 120	Equipment Operation	***Cert C***	3
EPD 125	Setting and Replacing Poles	***Cert C***	1
EPD 1376	Basic Transformer Theory and Transformer Installation	***Cert C***	6

•• Online class; must be completed in order to enroll in the second semester.

Summer Semester			
EPD 199	Utility Internship	***Cert C***	8
Fall Semester			
EPD 140	Service Installation & Metering	***Cert C***	4
EPD 145	Conductor Installation & Repair	***Cert C***	4
EPD 150	Rubber Gloving & Hot Sticking Methods	***Cert C***	3
EPD 160	Underground Distribution	***Cert C***	3
EPD 170	Fusing & System Coordination	***Cert C***	1
EPD 180	Substations & Voltage Regulation	***Cert C***	4
EMP 1901	Global Employment Standards	***Cert C***	1

General Education Requirements

15 Credit Hours

COURSE NO.	COURSE TITLE	CREDITS
English		**3 required**
COM 105	English Composition I	3
COM 110	Technical Writing	3
Math		**3 required**
MAT 109	Technical Mathematics II	3
MAT 110	Intermediate Algebra or higher	3
Additional General Education		**9 required**

General education elective list is located on page 028.

Certificate C Requirements

51 Credit Hours

COURSE NO.	COURSE TITLE
Technical Specialty courses marked with "***Cert C***" & MAT 101 Technical Math 1 or higher	