# Electrical Utility Technology, AAS
## School of Technology

The EUT AAS will prepare students for mid-level positions in the electric utility industry. Students who complete this program will develop a comprehensive understanding of the activities associated with electric utility line work, including circuit analysis, technical communication, heavy equipment operation, working with high voltage electricity, class A CDL license, first aid and CPR certifications, electrical transmission and distribution, and the safety aspects related to each. Students will engage in classroom and laboratory activities that will develop the basic technical skills necessary to obtain a position within the electric utility industry. In addition, students will be required to participate in a 10-week, compensated field experience with FirstEnergy that supplements the learning process.

### Special Admission and Selection Criteria

- Students who are accepted must have and maintain a valid driver's license.
- Students must successfully pass a background screening for criminal and driving records conducted by FirstEnergy.
- Students must successfully pass a physical capabilities test administered by Industrial Physical Capability Services, Inc.
- Students must pass a Department of Transportation CDL physical and provide a copy of the Medical Examiners Certificate to FirstEnergy.
- Students must meet all academic and hands-on training requirements as part of FirstEnergy's selection process.

### Career Opportunities

Graduates of the EUT AAS may accept positions such as electric utility line worker, lineman, cable worker, electrical utility foreman, electrical line supervisor and electrical line contractor.

### Program Learning Outcomes

Upon successful completion of this program, students will be able to:

- Adhere to safety practices, such as checking equipment regularly and erecting barriers around work areas.
- Open switches or attach grounding devices to remove electrical hazards from disturbed or fallen lines or to facilitate repairs.
- Climb poles or use truck-mounted buckets to access equipment.
- Place insulating or fireproofing materials over conductors and joints.
- Install, maintain and repair electrical distribution and transmission systems, including conduits, cables, wires and related equipment such as transformers, circuit breakers and switches.
- Identify defective sectionalizing devices, circuit breakers, fuses, voltage regulators, transformers, switches, relays or wiring using wiring diagrams and electrical-testing instruments.
- Demonstrate operation of vehicles equipped with tools and materials to job sites.
- Coordinate work assignment preparation and completion.
- Inspect and test power lines and auxiliary equipment to locate and identify problems using reading and testing instruments.
- String wire conductors and cables between poles, towers, trenches, pylons and buildings; setting lines in place; and using winches to adjust tension.
- Identify and explain the components of an electrical distribution and transmission system.
- Develop the key technical skills necessary to secure a job in the electric utility industry.
- Install, maintain and troubleshoot electrical distribution and transmission systems.
- Demonstrate and utilize technology to maintain and troubleshoot various electrical industry systems.
- Demonstrate and utilize personal and interpersonal skills as an integral member of a team.

| Sugg. Term | Seq # | Course ID | Course Title | Cr. | Term Offered | Prereq(s) | Options Available |
|---|---|---|---|---|---|---|---|
| 1st Fall | 1 | PDV 101 | First Year Seminar | 1 | F, Sp, Su | | |
| | 2 | CPT 150 | Microcomputer Concepts | 3 | F, Sp, Su | | |
| | 3 | ELC 191 | Basic Principles of Industrial Electricity | 4 | F | | |
| | 4 | EUT 101 | Overhead Line Technology I | 5 | F | | |
| | 5 | MTH 108 | Mathematics for Technologies I | 4 | F, Sp, Su | MTH 052, 052A or Placement | |
| 1st Spring | 6 | ELC 106 | Circuit Analysis I | 4 | Sp | | |
| | 7 | ELC 192 | Industrial Electrical Equipment | 4 | Sp | ELC 191 | |
| | 8 | ENG 161 | College Writing | 3 | F, Sp, Su | ENG 085 or Placement | |
| | 9 | EUT 102 | Overhead Line Technology II | 5 | Sp | EUT 101 | |

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| Sugg. Term | Seq # | Course ID | Course Title | Cr. | Term Offered | Prereq(s) | Options Available |
|---|---|---|---|---|---|---|---|
| 2nd Fall | 10 | ELC 107 | Circuit Analysis II | 4 | F | ELC 106 & MTH 108 | |
| | 11 | EUT 201 | Overhead Line Technology III | 5 | F | EUT 102 | |
| | 12 | ENG 162 | Technical Communication | 3 | F, Sp, Su | ENG 161 | |
| | 13 | PSY 160 | General Psychology | 3 | F, Sp, Su | | |
| 2nd Spring | 14 | BUS 249 | Labor Relations | 3 | F, Sp, Su | | |
| | 15 | ELC 223 | Power Distribution and Transmission | 4 | Sp | ELC 106, 107 & 191 and EUT 101 & 102 | |
| | 16 | EUT 202 | Overhead Line Technology II | 5 | Sp | EUT 201 | |
| | 17 | HUM 156 | Critical Thinking | 3 | F, Sp, Su | | |

Total Program Credits 63