

Electrical Power Distribution Fundamentals 1C Applied Laboratory

Course Outcome Summary Chippewa Valley Technical College

Information

Course Number	413-305
Credits	5
Contact Hours	160
Developers	Loren Anderson and Lynette Neibauer

Types of Instruction

<i>Type of Instruction</i>	<i>Contact Hours</i>	<i>Outside Hours</i>	<i>Credits</i>
Lab instruction (2 hours x 5 days per week x 16 weeks)	160	0	5
Totals	160		5

Description

This is a first semester lab class that focuses on practical tasks and working concepts associated with electrical line work. Aerial climbing will be introduced and practiced, power line equipment will be used. Overhead distribution line design, specifications, and construction will be part of this class. This class will also introduce and students will utilize basic rope knots, electrical connectors, electrical test equipment, hand tools and power tools. Safety for line workers will be part of this course.

Exit Learning Outcomes Addressed In This Course

Course Level Learning Outcomes

Competencies

1. Use climbing equipment and tools.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given appropriate climbing equipment

Your performance will be successful when:

- o you identify the climbing equipment and tools
- o you assemble the climbing equipment and tools

2. Demonstrate pole climbing techniques.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given appropriate climbing equipment
- o on a written exam

Your performance will be successful when:

- o you demonstrate basic climbing techniques per checklist
- o you achieve a score of at least 71% on the checklist assessment
- o you achieve a score of at least 71% accuracy on the written exam

3. Demonstrate knowledge of basic hydraulic principles.

Performance Standards

You will demonstrate your competence:

- o on a written exam

Your performance will be successful when:

- o you achieve a score of at least 71% accuracy on a written exam on hydraulic principles

4. Operate line trucks and other mobile equipment.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given line trucks and mobile equipment
- o given hydraulic operated equipment

Your performance will be successful when:

- o you demonstrate proper operation of line trucks and mobile equipment
- o you demonstrate proper operation of hydraulic equipment

5. Utilize staking sheets for overhead distribution line construction.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given staking sheet
- o given necessary materials

Your performance will be successful when:

- o overhead distribution line is completed according to information provided by staking sheet
- o overhead distribution line meets inspection guidelines on checkoff sheet

6. Utilize specification drawings for line construction.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given specification drawings
- o given necessary materials

Your performance will be successful when:

- o overhead distribution line is completed according to information provided by specification drawings
- o overhead distribution line meets inspection guidelines on checkoff sheet

7.

Build overhead distribution line, including: installation of anchors, installation of guy wires, framing poles, setting poles, stringing wire, splicing wire, sagging wire, and clipping in

conductors.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given necessary materials and equipment

Your performance will be successful when:

- o overhead distribution line meets inspection guidelines on checkoff sheet

8. Practice and use various appropriate knots.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given sample ropes

Your performance will be successful when:

- o the knots are made correctly per checklist criteria
- o you can identify when and how various knots are to be used

9. Utilize various electrical connectors.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given connectors
- o given connector installation tools

Your performance will be successful when:

- o you install connectors appropriately

10. Use basic electrical test equipment.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given electrical test meters

Your performance will be successful when:

- o you use electrical test meters appropriately
- o you read the meters accurately

11.

Use hand and power tools common for line workers.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given hand and power tools

Your performance will be successful when:

- o you utilize tools appropriately to complete basic tasks
- o you handle tools safely

12. Apply safe working concepts.

Performance Standards

You will demonstrate your competence:

- o in a lab setting
- o given written quiz

Your performance will be successful when:

- o you practice safe working procedures in lab settings
- o you achieve a score of at least 71% on safety quiz