# Program Information

## Lesson:

### *Cabling Jargon*

## Training:

## Premises Cabling

## Time frame:

### 60 minutes

# Instruction Section

## Learning Objectives:

# Accurately utilize the terms used in premises cabling.

# Recognize the meaning of specialized cabling terms and their jargon.

# Apply the use of premises cabling jargon to real world scenarios.

## Assessment Tools/Methods:

# Observe participants as they work in groups on the real-world activities to determine the accuracy of their use of terminology.

# Participants should be assessed on their participation in group discussions and activities.

## Learner Prior Knowledge:

# Prior to class, participants will need to read:

# Reference Guide: Premises Cabling Jargon <https://www.thefoa.org/tech/ref/premises/jargon.html>

# Reference Guide: Communications Cabling Glossary <https://www.thefoa.org/tech/ref/premises/glossary.html>

## Instructional Activities:

# Review the importance of understanding premises cabling jargon in professional contexts.

# Discuss how proficiency in this area can enhance career opportunities and contribute to more efficient troubleshooting and installation processes.

# Activity 1: Presentation and Discussion:

# Present the following list of key concepts related to premises cabling to participants, then ask participants to provide examples for each of the following concepts.

# Different types of cables (Participant answers should include: unshielded and shielded twisted pair, coaxial, fiber optic)

# Common connectors (Participant answers should include: RJ45, BNC, SC, LC)

# Components of cabling infrastructure (Participant answers should include: patch panels, keystone jacks, cable trays, conduits)

# Industry standards (Participant answers should include: EIA/TIA, ISO/IEC)

# Technical aspects (Participant answers should include: crosstalk, bandwidth, latency)

# Use visual aids and real-world examples to illustrate concepts mentioned by participants when possible (Ex: show cables or connectors after the concepts are listed).

# Encourage participants to ask questions and participate in discussions to deepen their understanding of the material as each topic is discussed.

# Activity 2: Scavenger Hunt:

# Place the participants in teams and hand out the Scavenger Hunt Checklist to allow participants to mark off each term or component as they find it.

# Instruct the teams to explore a designated area (such as a building, office space, or data center) to locate and identify premises cabling components.

# Remind participants to prioritize safety and respect any restricted areas.

# Gather participants back together and review the checklist of terms and components.

# Discuss any challenges or surprises encountered during the scavenger hunt.

# Clarify any questions or confusion regarding premises cabling jargon and relate the scavenger hunt to real-world applications of premises cabling knowledge.

# Activity 3: Application Exercise:

# Present participants with the Hypothetical Scenario at the end of the lesson which involves a premises cabling project.

# With the participants in teams, have each team brainstorm and collaborate to address the prompts included in the Hypothetical Scenario. They should draw upon their knowledge of premises cabling jargon and learned concepts.

# Afterward, teams can present their solutions to the group and engage in discussions to evaluate the feasibility and effectiveness of their approaches.

# Summarize key takeaways from the activities.

## Resources:

# Scavenger Hunt Checklist

# Hypothetical Scenario with prompts

# Instructor Answer Suggestions for Hypothetical Scenario

## Differentiation:

# Offer choices for how participants engage with the material, such as group discussions, hands-on activities, or independent research projects.

# Use scaffolding techniques, such as guided questions, graphic organizers, or step-by-step instructions, to support learners as they navigate complex concepts or tasks.

# Encourage participants who are ready for more information to seek out advanced topics or case studies regarding premises cabling.

# Reflection Section

Reflect on the premises cabling components you encountered during the scavenger hunt and when answering the scenario prompts. What new terms, jargon, or concepts did you learn? How do these components contribute to a functioning network infrastructure?

*This lesson is supplemental to the Fiber Optics lesson within FOA's Fiber U curriculum and not part of the FOA required curriculum to obtain the Certified Premises Cabling Technician certification. If interested in becoming an approved school and/or obtaining a certification, please contact FOA at*[*thefoa.org/contact-foa.html*](https://www.thefoa.org/contact-foa.html)*.*

*Note: AI, specifically ChatGPT 3.5, was used to generate timeline for this contextualized lesson plan.*

## Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Scavenger Hunt Checklist

### Search the designated area for premises cabling components listed on your checklist. Record findings, then reconvene to discuss and reflect on the scavenger hunt experience.

Ethernet Cable (Cat5e, Cat6, etc.) Patch Panel

Switch Router

Wall Jack Cable Tray

Cable Tie Punch Down Tool

RJ45 Connector Coaxial Cable

Backbone Cable Horizontal Cable

Conduit Wire Management Rack

Cable Labels Power over Ethernet Injector

Telecommunications Closet Fiber Optic Cable

## Hypothetical Scenario:

# Scenario: Display the scenario or read to participants.

# You are a project manager for a company that is relocating to a new office space. The new space is larger and more modern, but it requires a comprehensive premises cabling installation to support the company's IT infrastructure and networking needs. Your task is to plan and oversee the premises cabling project to ensure seamless connectivity throughout the new office.

**Prompts:** Divide participants into teams and provide them with the following prompts:

1. Network Design: Based on the layout of the new office space and the company's requirements, design a comprehensive premises cabling network that integrates seamlessly with existing infrastructure (if applicable) and supports future expansion.
2. Equipment Selection: Research and select appropriate networking equipment, such as switches, routers, patch panels, and cable types (e.g., Cat6, fiber optic), considering factors like performance, reliability, scalability, and budget constraints.
3. Cable Routing and Management: Develop a plan for cable routing and management within the office space, ensuring efficient organization, minimal cable clutter, and accessibility for maintenance and upgrades.
4. Safety and Compliance: Identify potential safety hazards and compliance considerations associated with the premises cabling installation, and propose strategies to mitigate risks and ensure adherence to relevant regulations and standards (e.g., NEC, EIA/TIA).
5. Contingency Planning: Anticipate potential challenges or setbacks during the premises cabling project (e.g., unexpected obstacles, budget constraints, timeline delays) and develop contingency plans to address them effectively while minimizing disruption to business operations.

## Instructor Answer Suggestions for Hypothetical Scenario:

# The following information can be used as a guide for assessing participant answers. Answers will vary based on participant responses to the prompts.

**Prompts:** Divide participants into teams and provide them with the following prompts:

1. Network Design:
   1. A comprehensive network design plan that includes the layout of cabling infrastructure, such as cable pathways, distribution points, and termination points.
   2. Consideration of network topology (e.g., star, mesh) and the placement of network equipment to optimize performance and connectivity.
   3. Identification of redundancy measures and failover mechanisms to ensure reliability and minimize downtime.
2. Equipment Selection:
   1. Research-backed recommendations for networking equipment based on the company's requirements and budget constraints.
   2. Justification for the selection of specific equipment models, taking into account factors like throughput, port density, PoE support, and compatibility with existing hardware.
   3. Consideration of future scalability and expansion needs when choosing networking equipment.
3. Cable Routing and Management:
   1. A detailed plan for cable routing that minimizes signal interference, cable congestion, and potential damage to cables.
   2. Proposals for cable management solutions, such as cable trays, racks, and organizers, to maintain neat and organized cabling infrastructure.
   3. Strategies for labeling and documenting cables to facilitate troubleshooting and maintenance tasks.
4. Safety and Compliance:
   1. Identification of safety hazards associated with premises cabling installation and proposed measures to mitigate risks (e.g., electrical hazards, trip hazards).
   2. Knowledge of relevant regulations and standards governing premises cabling (e.g., NEC, TIA/EIA) and strategies for ensuring compliance.
   3. Consideration of environmental factors (e.g., temperature, humidity) and building codes that may impact cabling installation.
5. Contingency Planning:
   1. Identification of potential risks and challenges that could arise during the premises cabling project.
   2. Development of contingency plans and alternative strategies to address unforeseen circumstances and minimize project delays.
   3. Allocation of resources (e.g., personnel, budget) to support contingency measures and maintain project momentum.