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CE Code Calculations: Practical Applications and Advanced Techniques

Course details: https://electricityforum.com/electrical-training/ce-code-calculations

COURSE DATES AND TIMES

October 25, 2024

10:00 am - 4:30 pm ET

November 29, 2024

10:00 am - 4:30 pm ET

Our 6-hour, one-day CE Code Calculations course focuses on critical electrical calculations essential for compliance with the 2024 Canadian Electrical Code (CE Code).

The course is designed for professionals who work with complex electrical installations, including electricians, engineers, and maintenance personnel. By attending, participants will gain expert knowledge in calculating conductor sizes, overcurrent protection, conduit and box fill, and motor applications—all while ensuring adherence to the latest CE Code standards.

Why take this course?

Electrical professionals face increasing demands to meet regulatory standards and ensure safety across diverse electrical systems. Miscalculations can lead to unsafe installations, costly rework, or project delays. This course equips you with the practical knowledge and hands-on experience to avoid those pitfalls and ensure compliance, helping to safeguard both workers and electrical systems. By mastering key calculation techniques, you can significantly reduce the risk of non-compliance and improve project outcomes.

Participants will benefit from hands-on exercises, practical application scenarios, and real-world case studies, designed to make complex CE Code calculations clear and manageable. Whether you're calculating conductor ampacities, applying box and conduit fill rules, or determining overcurrent protection for transformers and motors, this course will provide the skills needed to excel. This is not just a review of the Code—it’s an immersive experience

aimed at helping you implement calculations effectively in your day-to-day work.

Upon completion, students will be able to confidently apply CEC calculations in various contexts, improving their ability to troubleshoot, ensure safe installations, and stay compliant with evolving electrical standards.

Learning Outcomes:

By the end of the course, participants will:

- Understand key CE Code sections for conductor sizing, ampacity, and protection.
- Perform accurate calculations for wire, conduit fill, motor, and transformer applications.
- Navigate and apply the Code efficiently to electrical installations.
- Comply with requirements for, panelboards, and tap conductors.

WHO SHOULD ATTEND

- Electricians (construction, industrial, commercial, institutional)
- Electrical engineers, and contractors
- Managers and maintenance professionals
- Electrical technologists and technicians
- Construction professionals, estimators, and managers
- Manufacturing managers and electrical mechanics
- Electrical apprentices, trade qualifiers, and educators.

This course is designed for professionals across the electrical industry who need to stay current with CE Code changes and enhance their ability to perform calculations essential for compliance in electrical systems.

STUDENTS RECEIVE

- Develop hands-on skills with electrical calculations critical for Code compliance.
- Stay up to date with the latest CE Code changes, avoiding costly non-compliance.
- Improve the ability to troubleshoot and ensure safety in electrical systems.
- Enhance your knowledge and career potential by mastering complex CE Code regulations for real-world applications.

COURSE OUTLINE

Course Program Outline:

1. Introduction and Overview

- Overview of course objectives and key concepts for CE Code compliance.
- Introduction to common calculation methods used in electrical installations.

2. Wire and Cable Applications

- Key factors for wire and cable conditions, including ampacities, temperature ratings, and flame spread.
- **Student Exercise**: Conductor ampacity calculation and table navigation.
- Review of parallel conductors, underground wiring, and mitigating sheath/eddy currents.

3. Conduit Fill and Box Fill

- Detailed calculation procedures for conduit and box fill according to Code requirements.
- **Student Exercise**: Practical conduit and box fill calculations using real-world examples.

4. Hazardous Locations

- Understanding the Zone and Class/Division systems for hazardous locations.
- Discussion: Electrical wiring requirements and equipment considerations for hazardous areas.

5. Panelboard Applications

- Identifying different types of panelboards and determining feeder connections based on the Code.
- **Student Exercise**: Conduct calculations for conductor sizing and overcurrent protection in panelboards.

6. Transformer Applications

- In-depth coverage of conductor and overcurrent sizing for transformers.
- **Student Exercise**: Real-world transformer sizing calculations based on applicable Code sections.

7. Motor Applications

- Understanding motor protection, including conductor sizing, overcurrent, and disconnection requirements.
- **Student Exercise**: Perform calculations for motor conductor sizing, overload, and overcurrent protection.

8. Electric Welders Tap Conductors

- Applicable Code sections for electric welders and tap conductors in electrical systems.
- **Student Exercise**: Conduct sizing and overcurrent calculations for tap conductors and electric welders.

9. Tap Conductors

- Panelboards
- Transformers
- Motors

COURSE SCHEDULE

Start: 10 a.m. Eastern Time
Finish: 4:30 p.m. Eastern Time