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# Ontario Electrical Safety Code Training - Essentials

[View Course Details](#)

## COURSE DATES AND TIMES

### Why Ontario Electrical Safety Code Training Matters

Ontario Electrical Safety Code Training is a comprehensive 12-hour, instructor-led program that teaches electrical professionals how to apply the 2024 Ontario Electrical Safety Code (CSA C22.1:24) and Ontario-specific amendments in real installation environments. Unlike short overview seminars that focus only on the highlights, this course provides practical, step-by-step guidance on interpreting rules, performing calculations, and applying Code requirements across residential, commercial and industrial projects.

The Ontario Electrical Safety Code, [Ontario Regulation 164/99](#), comprises the Canadian Electrical Code Part I (CEC) and specific Ontario Amendments. Development of the Canadian Electrical Code Part I is led by the Canadian Standards Association (CSA). It is developed in close consultation with volunteer technical committees and subcommittees reflecting expertise from across Canada, including ESA. After review, the provincial government then adopts the CEC, with additional amendments specific to Ontario.

Participants learn how the 2024 OESC affects conductor sizing, grounding and bonding, overcurrent protection, wiring methods, hazardous locations, life-safety systems and special installations. The course explains new requirements for electric vehicle supply equipment, energy management systems, energy storage systems, outdoor receptacles, GFCI expansion, revised demand load calculations for single dwellings, and updated installation expectations for generators, marinas, pools and temporary systems.

Through clear explanations, worked examples, and real-world scenarios, the training emphasizes how to design, install and maintain compliant electrical systems while reducing ESA deficiencies and inspection delays. The course is ideal for electricians, contractors, estimators, maintenance personnel, engineering staff, project managers and anyone responsible for compliant electrical installations in Ontario.

All participants receive detailed reference materials, supporting documentation, and a Certificate of Completion recognizing 12 hours of accredited training. This course equips professionals with the confidence and practical skills needed to interpret the 2024 OESC accurately, apply the amended rules consistently, and improve safety, reliability and compliance across every project.

## Key 2024 Changes Covered

Key 2024 Ontario Electrical Safety Code changes covered in this course include updated requirements for electric vehicle supply equipment, including revised demand load rules for single dwellings and multi-unit residential installations. The course examines new provisions for energy management systems, expanded GFCI protection, updated rules for outdoor receptacles, and revised grounding and bonding requirements. Participants will learn how the 2024 OESC addresses energy storage systems, renewable energy installations, emergency power systems, and standby generation. Additional updates include changes to wiring methods, conductor ampacity tables, temporary installations, pools and marinas, and amended documentation expectations for complex projects. These changes are explained with practical examples to show how they affect real-world electrical installations and inspection outcomes.

You won't want to miss this learning opportunity!!

### WHO SHOULD ATTEND

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- Electrical Engineers, Technicians And Technologists
- Mechanical Engineers And Technologists
- Design Consultants
- Industrial Maintenance Contractors
- Electrical Project Managers
- Electrical Inspectors
- Educators

### STUDENTS RECEIVE

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- 100+Page Digital Electrical Safety Handbook (Value \$20)
- An **Electricity Forum Coupon (Value \$100)** To Be Used Against Any Future Electricity Forum Event (Restrictions Apply)
- 1.2 CEU Credits Issued By The Engineering Institute Of Canada. (12 Professional Development Hours)
- Course Materials In PDF Format

### COURSE OUTLINE

## Ontario Electrical Safety Code Training Course Outline

# DAY ONE

## 1. Introduction to the 2024 Ontario Electrical Safety Code

- Overview of the 2024 OESC (CSA C22.1:24) and Ontario amendments
- How the Code is organized and how to navigate sections and tables
- Understanding the intent of new and amended 2024 rules

## 2. Conductors, Ampacity and Wiring Methods

- Updated ampacity rules and revised tables in the 2024 OESC
- Conductor sizing for services, feeders and branch circuits
- Changes affecting wiring methods and cable types
- Applications across residential, commercial and industrial projects

## 3. Service Equipment, Service Entrance Requirements and Overcurrent Protection

- Updated rules for service equipment and panelboard requirements
- Revised GFCI and AFCI protection in 2024
- Selective coordination considerations for critical systems
- Changes affecting multi-unit and commercial installations

## 4. Grounding and Bonding Requirements

- Updated grounding and bonding rules and clarified conductor sizing
- Application for buildings, equipment and special installations
- Changes affecting pools, marinas, EV chargers and temporary systems
- Integration with fault protection and inspection expectations

## C5. Circuit Loading, Voltage Drop and Demand Calculations

- Revised 2024 demand loads for single dwellings with EV charging
- Updated rules for apartments, multi-unit buildings and commercial sites
- Voltage drop limits and calculation methods
- Load calculations for services, feeders and EVSE installations

## 6. Hazardous Locations and Special Environments

- Updated classification and installation requirements
- Industrial rules for flammable materials and equipment
- Clarifications to Section 18 in the 2024 Code
- Documentation and inspection considerations for high-risk areas

## **DAY TWO**

### **7. Motors, HVAC Equipment and Industrial Applications**

- Updated requirements for motor installations and controllers
- Rules affecting HVAC systems, heat pumps and rooftop equipment
- Overload and short-circuit protection updates
- Application of revised rules in industrial environments

### **8. Emergency Power, Life-Safety Systems and Standby Generation**

- Updated requirements for emergency and standby power systems
- Revisions to fire alarm wiring and life-safety circuits
- Changes affecting selective coordination and reliability
- Documentation expectations for critical systems

### **9. Renewable Energy, Energy Storage Systems and Distributed Energy Resources**

- Updated rules for photovoltaic systems and inverters
- New requirements for energy storage systems in all occupancies
- Grounding, bonding and fault protection integrations
- Commissioning and inspection considerations for DER and ESS

### **10. Electric Vehicle Supply Equipment and Energy Management Systems**

- Updated EVSE requirements across all dwelling and commercial types
- Load management and energy management system applications
- New rules for commercial EV charging installations
- Practical service sizing and load calculation examples

### **11. High Voltage Installations and Special Locations**

- Overview of updated Section 36 requirements
- Rules for high voltage distribution, switching and protection
- Updated requirements for marinas, pools and recreational facilities
- Clarifications in Section 66 and Table 38 for special installations

### **12. Documentation, Inspection Readiness and Compliance Strategies**

- Preparing drawings, calculations and forms to reduce ESA deficiencies
- Understanding typical inspection issues under the 2024 OESC

- Compliance strategies for contractors and maintenance teams
- Review of applied examples from throughout the course

## **COURSE SCHEDULE**

Start: 10:00 a.m. Eastern Time

Finish: 4:30 p.m. Eastern Time

Contact us Today for a FREE quotation to deliver this course at your company's location.

[Request Quote](#)