



COURSE OUTLINE: ELR623 - CAND.ELECT. CODE - 1

Prepared: Sean Hager

Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	ELR623: CANADIAN ELECTRICAL CODE - LEVEL 1	
Program Number: Name	6520: CONST & MTCE ELE BAS	
Department:	ELEC. APPRENTICES	
Semesters/Terms:	19F, 20W, 20F	
Course Description:	This course introduces the student to the Canadian Electrical Code with a focus on the general sections of the code and residential wiring practices.	
Total Credits:	4	
Hours/Week:	4	
Total Hours:	32	
Prerequisites:	There are no pre-requisites for this course.	
Corequisites:	There are no co-requisites for this course.	
General Education Themes:	Science and Technology	
Course Evaluation:	Passing Grade: 50%, D	
Other Course Evaluation & Assessment Requirements:	Grade Definition Grade Point Equivalent A+ 90 - 100% 4.00 A 80 - 89% B 70 - 79% 3.00 C 60 - 69% 2.00 D 50 - 59% 1.00 F (Fail)49% and below 0.00 CR (Credit) Credit for diploma requirements has been awarded. S Satisfactory achievement in field /clinical placement or non-graded subject area. U Unsatisfactory achievement in field/clinical placement or non-graded subject area. X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course. NR Grade not reported to Registrar's office. W Student has withdrawn from the course without academic penalty.	
Books and Required Resources:	Canadian Electrical Code current version Publisher: CSA Group Edition: Current	
Course Outcomes and Learning Objectives:	Course Outcome 1	Learning Objectives for Course Outcome 1
	State the purpose of the Canadian Electrical Code and identify which sections apply to a given electrical installation.	- State the objective, scope, and general arrangement of the Canadian Electrical Code. (CEC) - Identify the method used to indicate code regulation changes in new editions of the CEC. Identify installation requirements for electrical equipment (other than heating) installed in residential



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	occupancies as specified in the Installation of Electrical Equipment section of the CEC. - Explain terms as listed in the Object, Scope and Definitions` section and the Special Terminologies located in the general rules of other sections of the CEC. - Interpret general rules (Section 2) of the CEC.
Course Outcome 2	Learning Objectives for Course Outcome 2
Interpret rules of the Canadian Electrical Code which apply to residential installations.	- Explain the CEC regulations regarding grounding and bonding (Section 10) of electrical systems and circuits operating at 750 volts or less. - Interpret the regulations of the CEC regarding wiring methods (Section 12) for installations operating at 750 volts or less. - Explain the general regulations regarding Class 1 and Class 2 signal and remote control Circuits (Section 16) of the CEC. - Interpret the CEC regulations for Pools, Tubs, Spas (Section 68). - Identify temporary wiring installation requirements for buildings or projects under construction or demolition (Section 76) of the CEC. - Calculate conduit fill where all conductors are the same size and have the same insulation type. - Calculate conduit fill where the conductors have different sizes and/or different insulation types. - Calculate raceway fill for the raceway types listed in Section 12 where all conductors are the same size and have the same insulation type. - Calculate raceway fill for the raceway types listed in Section 12 where the conductors have different sizes and/or different insulation types. - Calculate the maximum number of conductors sized #14 to #6 that are permitted in a box. - Calculate the minimum size of pull boxes for straight, angle and u-pulls for conductors larger than #6. - Calculate ampacity and apply correction factors for single conductors in free air, including conductors in parallel. - Calculate ampacity and apply correction factors for conductors in a raceway or multi-conductor cable, including conductors in parallel. - Calculate ampacity and apply correction factors for flexible cords and equipment wires. - Calculate ampacity and apply correction factors for underground conductor installations using IEEE Standard 835. - Calculate the size of service equipment for single dwelling units. - Identify installation requirements for electrical equipment (other than electric heating) including: lighting, receptacles, heating, and appliances installed in single dwelling occupancies as specified in the Installation of Electrical Equipment Section 26 and 30 of the CEC. - Interpret the CEC regulations regarding the installation of fire alarms located in dwelling units. - Explain requirements for the installation and wiring of Fixed Electric Surface and Space Heating Systems located in

	residential occupancies.				
Evaluation Process and Grading System:	<table> <tr> <th>Evaluation Type</th><th>Evaluation Weight</th></tr> <tr> <td>Tests (2)</td><td>100%</td></tr> </table>	Evaluation Type	Evaluation Weight	Tests (2)	100%
Evaluation Type	Evaluation Weight				
Tests (2)	100%				
Date:	August 29, 2019				
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.				