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

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Course Code: Title	ELR623: CANADIAN ELECTRICAL CODE - LEVEL 1
Program Number: Name	
Department:	ELEC. APPRENTICES
Semesters/Terms:	21F, 21W, 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 A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
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 W Student has withdrawn from the course without academic penalty.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	**Course Outcome 1** | **Learning Objectives for Course Outcome 1**

Learning Objectives:		
	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 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:

Evaluation Type	Evaluation Weight
Tests (2)	100%

Date: July 30, 2021

Addendum: Please refer to the course outline addendum on the Learning Management System for further information.