



## COURSE OUTLINE: ELR113 - INSTALL METHODS I

Prepared: Chris Kelly

Approved: Corey Meunier, Chair, Technology and Skilled Trades

<b>Course Code: Title</b>	ELR113: INSTALLATION METHODS I	
<b>Program Number: Name</b>	4127: ELECTRICAL TN-TRADES	
<b>Department:</b>	ELECT./INSTRUMENTATION PS	
<b>Semesters/Terms:</b>	20W	
<b>Course Description:</b>	This course introduces the student to electrical installation methods. The Canadian Electrical Code is covered in conjunction with interpretation of construction drawings and specifications for a residential installation.	
<b>Total Credits:</b>	2	
<b>Hours/Week:</b>	2	
<b>Total Hours:</b>	30	
<b>Prerequisites:</b>	There are no pre-requisites for this course.	
<b>Corequisites:</b>	There are no co-requisites for this course.	
<b>This course is a pre-requisite for:</b>	ELR233	
<b>Course Evaluation:</b>	Passing Grade: 50%, D	
<b>Other Course Evaluation &amp; Assessment Requirements:</b>	<p>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</p> <p>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 W Student has withdrawn from the course without academic penalty.</p>	
<b>Books and Required Resources:</b>	<p>Canadian Electrical Code C22 1-15 (2015) by CSA Publisher: Canadian Standards Association Edition: 2015 Edition</p> <p>Electrical Wiring - Residential by Mullin Publisher: Nelson Canada Edition: Seventh Canadian Edition</p>	
<b>Course Outcomes and Learning Objectives:</b>	<b>Course Outcome 1</b>	<b>Learning Objectives for Course Outcome 1</b>



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1. State the purpose of the Canadian Electrical Code and identify which sections apply to a given electrical installation	1.1 State the objective, scope, and general arrangement of the Canadian Electrical Code (CEC). 1.2 Identify the method used to indicate code regulation changes in new editions of the CEC. 1.3 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. 1.4 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. 1.5 Interpret general rules (Section 2) of the CEC
<b>Course Outcome 2</b>	<b>Learning Objectives for Course Outcome 2</b>
2. Interpret rules of the Canadian Electrical Code, which apply to residential installations	2.1 Explain the CEC regulations regarding grounding and bonding (Section 10) of electrical systems and circuits operating at 750 volts or less. 2.2 Interpret the regulations of the CEC regarding wiring methods (Section 12) for installations operating at 750 volts or less. 2.3 Explain the general regulations regarding Class 1 and Class 2 signal and remote control Circuits (Section 16) of the CEC. 2.4 Calculate conduit fill where all conductors are the same size and have the same insulation type. 2.5 Calculate the maximum number of conductors sized #14 to #6 that are permitted in a box. 2.6 Calculate ampacity and apply correction factors for conductors in a raceway or multi-conductor cable. 2.7 Calculate the size of service equipment for single dwelling units. 2.8 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. 2.9 Interpret the CEC regulations regarding the installation of fire alarms located in dwelling units. 2.10 Explain requirements for the installation and wiring of Fixed Electric Surface and Space Heating Systems located in residential occupancies.
<b>Course Outcome 3</b>	<b>Learning Objectives for Course Outcome 3</b>
3. Interpret specifications and drawings for a single dwelling construction project.	3.1 Identify and interpret the alphanumeric lines. 3.2 Demonstrate competency with metric scale and imperial scale and be able to convert between the two. 3.3 Read and apply residential specifications. 3.4 Use a set of drawings of a single dwelling to apply the information from the architectural, structural and mechanical drawings in relation to an electrical installation. 3.5 Apply specifications, Building and Electrical Codes to single dwellings. 3.6 State procedures for inspecting an installation by the appropriate authority.



**Evaluation Process and Grading System:**

Evaluation Type	Evaluation Weight
Assignments	25%
Tests (3)	75%

**Date:**

August 29, 2019

**Addendum:**

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

