



COURSE OUTLINE: ELR825 - PRINTS - LEVEL 3

Prepared: Sean Hager

Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	ELR825: PRINTS - LEVEL 3
Program Number: Name	6522: CONST & MTCE ELE ADV
Department:	ELEC. APPRENTICES
Semesters/Terms:	21W, 20F, 19W
Course Description:	This course covers interpretation of construction drawings and specifications relating to industrial construction projects. It focuses on the electrical installation.
Total Credits:	3
Hours/Week:	2
Total Hours:	20
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 11 Take responsibility for ones own actions, decisions, and consequences.
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

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	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 W Student has withdrawn from the course without academic penalty.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 Publisher: CSA Group or PS Knight Edition: current Electrical Wiring Industrial Canadian Edition Publisher: Delmar																											
Course Outcomes and Learning Objectives:	<table><tr><th>Course Outcome 1</th><th>Learning Objectives for Course Outcome 1</th></tr><tr><td rowspan="10">Interpret the Canadian Electrical Code requirements pertaining to industrial installations.</td><td>Use architectural, electrical, and mechanical drawings and specifications to determine installation requirements for a construction project.</td></tr><tr><td>Read and develop complex single line, schematic and wiring diagrams.</td></tr><tr><td>Identify the standards for IEC, NEMA, and EEMAC rated starters and contactors as per manufacturer's specifications.</td></tr><tr><td>Use plans to design branch circuit layouts for single phase and three phase systems from panels to the points of utilization, employing load balancing techniques.</td></tr><tr><td>Complete a cable pulling calculation to determine the stresses on the conductor/cable during installation.</td></tr><tr><td>Prepare branch circuit, feeder, and bus duct electrical estimates, using the drawings, for construction installations, and transfer the information to material order sheets.</td></tr><tr><td>Complete an electrical system design from the point of utility supply, emergency supplies and transfers, to a panel board and associated loads including transformers, feeders, bus duct, splitters, disconnects, capacitors and motors, applying Code rules.</td></tr><tr><td>Complete the grounding and bonding requirements for a high voltage substation installation including indoor and outdoor substations and electrical vaults.</td></tr><tr><td>State the precautions necessary for the installation of a stress cone.</td></tr><tr><td>Describe the preparation and termination of shielded high voltage cables.</td></tr></table>	Course Outcome 1	Learning Objectives for Course Outcome 1	Interpret the Canadian Electrical Code requirements pertaining to industrial installations.	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		Select overcurrent devices to ensure proper overcurrent coordination as per manufacturer` s specifications, CEC and customer` s requirements.				
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%	
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Date:	August 18, 2020					
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.					

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