

## **HMI111 - Introduction to Residential Wiring**

Outcomes	Format	Hours	Topic/Content	Readings	Assignments	Assessment	Resources
1	Lecture	4	Interpret Canadian electrical code	Unit 1 pp. 1-7	P. 7 Q. 1-12	Assign. to be	Residential Electrical
			pertaining to residential installations.	Code sec. 0, 2	Questions from end of	handed in	Book and Code book.
			Describe		Chapters		
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1 2	Lah	2	'				
1,2	Lub					Assign, to be	
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			1				
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			units of measure.				
1,2,6	Lecture	4	Identify	Units 5,6,7 (to	Questions	Assign. to be	Residential Electrical
				p. 123)	from end of	handed in	book and Code book.
				Code sec. 0, 2	chapters		
			Interpret the alphanumerical lines				
			, ,				
			•				
			_				
	Lab	2				_	
						handed in	
			<del> </del>				
	1,2	1 Lecture  1,2 Lab	1 Lecture 4  1,2 Lab 2  1,2,6 Lecture 4	1 Lecture 4 Interpret Canadian electrical code pertaining to residential installations.    Describe   Technical drawings, visualizing a building, building views, symbols, notations and scale. Drawings and specifications.  1,2 Lab 2 Apply   Architectural, electrical and residential drawings to determine installation requirements.    Codes and standards, testing and units of measure.  1,2,6 Lecture 4 Identify   Interpret the alphanumerical lines   Select as required; wiring, boxes, service panel size and conduit.    Describe   Overhead service and mast type, underground services, main service disconnect and grounding.	1 Lecture 4 Interpret Canadian electrical code pertaining to residential installations.    Describe	1 Lecture 4 Interpret Canadian electrical code pertaining to residential installations.    Describe   Technical drawings, visualizing a building, building views, symbols, notations and scale. Drawings and specifications.    1,2	Lecture   4

5-6	2, 3, 4, 5,6,7 <b>1,2 (test)</b>	Lecture	4	<u>Describe / Explain</u> the method of estimating required wiring, boxes, service panel sizes and conduit.	Unit 7 (cont.) Code sec. 4,12	Questions from end of chapters	Assign. to be handed in Rev/test #1	Residential Electrical book and Code book
							(in week 6)	
				Determine conductor sizes and types, wiring methods, wire connections, voltage drop and neutral sizing for services.				
		Lab	2	Apply				
				Calculate conduit fill where all conductors are the same size and insulation type.	Unit 7 Code sec. 12	Questions from end of chapters	Assign. to be handed in	
7,8	1,2	Lecture	4	Explain Interpret the regulations of CEC regarding wiring methods for installations operating at 750 volts or less.	Unit 7 (p. 123 on), 11, 12 Code sec. 12	Questions from end of chapters	Assign. to be handed in	Residential Electrical book and Code book
	2,3,4,5, 6, 7	Lab	2	Calculate conduit fill where the conductors have different sizes.			Assign. to be handed in	
9	1,2	Lecture	2	Wire sizes and loads.				
	2,3,4,5, 6, 7	Lab	1	Calculate the maximum number of conductors sized # 14 to # 6 that is permitted in a box.			Assign. to be handed in	
10	1,2	Lecture	3	Review / test # 2			Rev/test #2 (in week 10)	Residential Electrical book and CEC.

11,12,	1,2	Lecture	4	Identify	Units 14, 15,	Questions	Assign. to be	Residential Electrical
					16	from end of	handed in	book and CEC.
						chapters		
				Assess electrical outlets and fixtures	Code sec. 12,			
				needed in a single family dwelling.	26			
				Special purpose outlets for ranges,	Code sec. 26			
				counter mounted cooking units, wall				
				mounted ovens, disposals and				
				dishwashers; including laundry				
				appliances and attic.				
				<u>Describe</u>				
				Determine electrical requirements	Units 17, 18	Questions	Assign. to be	
				for oil, gas, electric heating and air	Code sec. 62	from end of	handed in	
				conditioning.		chapters		
				Uses and installations of electrical				
				conduit.				
				Requirements for service grounding				
				and flexible metal conduit.				
	2,3,4,5,6,	Lab	2	<u>Apply</u>			Assign. to be	
	7						handed in	
				Voltage drop calculations.				
				Calculations using CEC Table D-3.				

13,14	1,2	Lecture	4	<u>Identify</u>				
				High temperature insulated	Units 14-18	Questions	Assign. to be	Residential Electrical
				conductors, wire device, breaker or	(also 11, 12)	from end of	handed in	book and Code book
				switch.	Code sect. 12,	chapters		
					26			
				Three - wire circuits				
				<u>Describe</u> (Wiring methods)				
				Assess branch circuits for the	Unit 11			
				bedrooms, study hall, living room,	Pg. 195-211			
				front entrance, bathrooms and				
				kitchens.				
				<u>Identify</u>	Code sec. 0, 2,			
					4, 12, 26			
				Grounded and ungrounded				
				conductors (color coding).				
				Toggle switches.				
				<u>Describe</u>				
				Operation that each type of toggle				
				switch performs.				
				<u>Explain</u>				
				Various ways to bond wiring.				
				How to design circuits.				
	2,3,4,5,6,	Lab	2	Apply			Assign. to be	
	7,						handed in	
				Correct wiring connections the CEC	Units 14-18		Assign. to be	
				requires.			handed in	
15	1,2	Lecture	3	Review and Test # 3			Rev / Test # 3	
							(in week 15)	
16				Review.				