SAULT COLLEGE

HMI111 - Introduction to Residential Wiring

Week	Outcomes	Format	Hours	Topic/Content	Readings	Assignments	Assessment	Resources
1-2	1	Lecture	4	Interpret Canadian electrical code pertaining to residential installations.	Unit 1 pp. 1-7 Code sec. 0, 2	P. 7 Q. 1-12 Questions from end of chapters	Assign. to be handed in	Residential Electrical Book and Code book.
				Describe				
				Technical drawings, visualizing a building, building views, symbols, notations and scale. Drawings and specifications.	Unit 2 pp. 9-20	Ques. 1-20	Assign. to be handed in	
	1,2	Lab	2	Apply				
				Architectural, electrical and residential drawings to determine installation requirements.			Assign. to be handed in	
				Codes and standards, testing and units of measure.				
3-4	1,2,6	Lecture	4	Identify	Units 5,6,7 (to p. 123) Code sec. 0, 2	Questions from end of chapters	Assign. to be handed in	Residential Electrical book and Code book.
				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.				
		Lab	2	Explain Bonding, ratings for fuses and circuit breakers, panels and loads.			Assign. to be handed in	
				Apply Demonstrate competency with metric and imperial scale				

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

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