

HMI 114 Residential Construction I - Course Plan

Week	Outcomes	Format	Hrs	Topic/Content	Readings	Assignment	Assessment	Resources
1,2	1	Lecture	4	The carpenter's workplace; protect self and	Chap. 2	Workbook	p. 72 Test,	Handouts, calculators,
				others	pp. 59-71	chapter 2,	ques. # 1-11	green tag safety boots,
				Understand: the process of skill development		p.11		safety glasses.
				and the importance competency				Text book <i>Modern</i>
				<u>Explain</u>				Carpentry, along with
				General hand tools, safety, scaffold safety, fall				accompanying work book.
		Lab	6	arrest training			Practical	Handouts / training
				<u>Perform</u>			activities	materials for ladders,
				Proper set up of scaffolds and ladder, proper				scaffolds, fall arrest, power
				use of tools including fall arrest equipment				tools, elevated platforms
3	1, 2, 4	Lecture	2	Preparing construction specific material and	Chap. 3	Workbook	p. 100 Test,	As above and residential
				cost estimates	pp. 73-99	chapter 3,	ques. # 1-16	prints, calculators
				Read and understand architectural drawings		p.13		
				<u>Explain</u>				
				Preparing material lists for specified				
				residential plans				
		Lab	3	<u>Perform</u>				
				Preparing materials for specific residential			Practical	
				plans			activities	
				Estimating materials, costs				
				Understanding the use of scale in plans				
				<u>Identify</u>				
				Identify architectural symbols				

4	1, 3	Lecture	2	Building materials, with a focus on engineered lumber and its applicationsExplainVarious building materials, engineered lumber and its applications, wood 'l' beams, laminated veneer lumber, glue laminated beams, open web tresses.	Chap. 1	Workbook chapter 1, pp. 5 -10 Questions as assigned	p. 55 Test, selected questions	As above and building material samples, including engineered lumber, hangars and nails.
		Lab	3	PerformMatching hangars with proper nailing patternsand proper nailing patterns for laminationIdentifyDifference between laminated beams andstrand beams.			Practical activities	
5,6	1,2,5	Lecture	4	Site preparations and building layoutExplainThe operation of the builder's level and level- transitThe basic operation of a laser level systemPerformMeasure and layout angles using levelling equipmentRead the vernier scale and use a plumb lineApplyUse a builder's level to make a square corner Use a tape measure to square off a building Use a transit and plumb bob for a starting point and locate building linesFind grade levels and elevations Proper use of laser levels and receiver	Chap. 6 pp. 149- 166	Workbook Chapter 6 pp. 29-32	p. 167 Test, ques. #1-11	As above and builder's level, transit, plumb bob, 100' tape, laser level and receiver.

7,8,9	1, 5	Lecture	6	Footings and foundations	Chap. 7	Workbook	pp.220- 221	As above and provided
				Explain	pp. 169-	chapter 7	Test, week 7	forming materials, ICF
				Layout lines of the building	219	pp. 33-39	Ques. #1-20,	samples
				Describe excavation procedures			week 8	
				Footing requirements and how to build			Ques. #21-35	
				footing forms				
				The terms concrete cement and aggregate				
				The building, erecting and use of forms				
				Types of foundation systems				
		Lab	9	Apply				
				Footing design				
				Forms for footings			Practical	
				concrete			activities	
				Erecting wall forms				
				Placing concrete				
				<u>Identify</u>				
				Concrete blocks				
				Insulating foundation walls				
				ICF foundation wall systems				
				Pouring basement floors				
				Sidewalks and drives				
				Perform				
				Estimating materials				
1								

10,	1,2,6	Lecture	6	Floor framing	Chap. 8	Workbook	Test ques. 1-	As above and samples of
11,12				<u>Describe</u>	рр. 223-	Chap. 8 pp.	10	engineered lumber,
				Type of floor framing	250	41-47		standard lumber and
				Platform framing				platform materials
				Girders and beams				
				Sill plates and headers				
				Floor joist and platform finishing				
				Overhangs and projections				
				Materials for sub-flooring				
		Lab	9	Identify				
				Material sizes including engineered materials,			Practical	
				girder and beam size, posts and columns			activities	
				Procedures for sill and header construction				
				Apply				
				Estimating material and material size				
				<u>Perform</u>				
				Floor framing and sheathing				
13,14	1,2,6	Lecture	4	Entrance platforms and stair construction	Chap. 7	Prepare for	Practical	As above and staircase
				<u>Describe</u>	pp.211-	final test	activities	materials
				Construction of entrance platforms and stairs	212 and			
		Lab	6	<u>Identify</u>	Chap.18,			
				Various types of stairs	pp.597-			
				Stair parts and terms	615			
				<u>Perform</u>				
				Calculate the rise-run ratio, number and size				
				of risers and stairwell length				
				Apply				
				Prepare sketches of types of stringers				
				Layout stringers for a given stair rise and run				
				Splitting angles for mitre cuts				
				Using stock stair parts				
15	1,2,3,4,	Lecture,	5	Building project completion			Practical	
	5,6	lab		Complete term project work and all practical			activities	
				activities			Final test	

16	1,2,3,4,	Lecture	5	Review; take up and discuss final test /		
	5,6,	/ lab		assignments / practical activities / sharing and		
				feedback		