

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,
				<u>Understand</u> : 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				
				Identify				
				Identify architectural symbols				

4	1, 3	Lecture	3	Building materials, with a focus on engineered lumber and its applications Explain Various building materials, engineered lumber and its applications, wood 'I' beams, laminated veneer lumber, glue laminated beams, open web tresses. Perform Matching hangars with proper nailing patterns and proper nailing patterns for lamination Identify Difference between laminated beams and strand beams.	Chap. 1	Workbook chapter 1, pp. 5 -10 Questions as assigned	p. 55 Test, selected questions Practical activities	As above and building material samples, including engineered lumber, hangars and nails.
5,6	1,2,5	Lab	6	Site preparations and building layout Explain The operation of the builder's level and level- transit The basic operation of a laser level system Perform Measure and layout angles using levelling equipment Read the vernier scale and use a plumb line Apply Use 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 lines Find 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
				<u>Explain</u>	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				
				<u>Perform</u>				
				Estimating materials				

10,	1,2,6	Lecture	6	Floor framing	Chap. 8	Workbook	Test ques. 1-	As above and samples of
11,12				Describe	pp. 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				
				Perform				
				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				
				<u>Apply</u>				
				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		