



## HMI113 - Plumbing I (Course Plan)

Week	Outcomes	Format	Hours	Topic/Content	Readings	Assignments	Assessment	Resources
1	1, 2	Lecture	1	<b><i>Use of personal protective equipment</i></b>	Instructor handout	Handout	Quiz	Plumbing manual I for all weeks
				<u>Identify</u> Assess hazardous conditions Recognize codes, acts and regulations				Code book
				<u>Describe</u> Compulsory trades as per regulations for plumbers				
	1, 3	Lab	2	<u>Perform / Demonstrate</u> Introduction to shop safety Intro to operation and storage of tools			Observation	Standard tool collection
2	1	Lecture	3+	<b><i>Ladder / Fall arrest training</i></b>			Test included	Pre-arranged
3	2	Lecture	3	<b><i>Codes, regulations and standards</i></b>	Code book	Handout	Quiz on codes	Code book, regulations and standards
				<u>Explain</u> Codes pertaining to plumbing				
				<u>Identify</u> Regulations and standards				
4	4	Lecture Lab	1 2	<b><i>Pipe and fitting materials, pipe supports and hangers</i></b>	Handout	Handout	Quiz	Various pipes and fittings
				<u>Identify</u> Steel pipe and fittings Cast iron soil pipe and fittings ABS, PVC, cross-linked polyethylene, copper, PEX, composite pipe (plastic, aluminum/plastic), pipes and fittings Pipe supports and hangers				
				<u>Explain / Demonstrate</u> Joining dissimilar materials – proper transition fittings				
5	2, 4	Lecture	3	<b><i>Review / test #1</i></b>			Test # 1	

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6, 7	4, 5, 7	Lecture	2	<b><i>Tools and piping methods</i></b>	Handout	handout	Performance accuracy	Various pipes and fittings
				<u>Identify</u> Measuring tools and instruments Various plumbing hand / power tools				
	4, 5, 10	Lab	4	<u>Apply</u>				
				Steel pipe, cast iron, copper, poly-metric plastics (PVC, ABS, CPVC), cutting and joining methods			Pipe joining and cutting observation	
				<u>Perform</u> Build piping projects incorporating different offsets			Major project assignment	
8, 9	5, 7	Lecture	2	<b><i>Trade calculations-level 1</i></b>	Handout	Handout		Various pipes and fittings
		Lab	3	<u>Apply</u> Basic math, Linear measurements Conversion from Imp. to US values			Quiz	Plumbing manual I section 3
				<u>Identify /Perform</u> Calculation of various offsets and square roots				
				<u>Perform</u> Various piping arrangements (offsets) – select and apply formulae			Offset joining accuracy	
	2, 7	Lecture	1	<b><i>Review / test #2</i></b>			Test # 2	
10,11	6	Lecture	2	<b><i>Trade documentation –level 1</i></b>	Handout	Handout	Quiz	Computers and drafting tables
				<u>Identify</u> Read and interpret prints Various drafting instruments Various projection drawings Construction drawings				plumbing schematics
		Lab	4	<u>Apply</u> Draw various projection drawings, construction drawings			Drawings will be marked	

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12	6, 8	Lecture	1	<b><i>Drainage systems - introduction</i></b>	Handout		Quiz	
		Lab	2	<u>Apply</u> Sizing drainage systems and project work			Major project	Various pipes and fittings
13	6, 9	Lecture	3	<b><i>Venting Systems - introduction</i></b>	Handout		Quiz	
				<u>Apply</u> Sizing venting systems and project work			Major project	Various pipes and fittings
14	10	Lecture	1	<b><i>Joining methods</i></b>				
		Lab	2	<u>Demonstrate</u> Oxy-acetylene cutting and welding equipment and accessories <u>Apply</u> Lay down beads, prepare, tack / weld a butt joint (saddle connection on a drain)			Observation	Various pipes and fittings
15	6, 7, 8, 9	Lecture	3	<b><i>Review / test #3</i></b>			Test # 3	
16	All	Lecture	3	<b><i>Final Review</i></b>				