

Plumbers Local 210

Plan of Study



This Plan of Study is a brief overview of the courses an apprentice plumber will master. The courses listed only cover the major topics. The actual curriculum is more comprehensive. All students that complete the 5 year program receive an Associates Degree in Applied Science from Ivy Tech Community College. Our Standards require 1272 contact hours in the classroom and training center as well as 8500 hours of On the Job Learning. Journeyman upgrade training is also required in our program, you never stop learning.

1st Year	Learning Objectives	Contact Hours	Course	Coursework Description	
	1	33	1st Sem	Safety OSHA 30	To promote safety and health, to make workers more knowledgeable about hazards and their rights.
	2	16		Use & Care of Tools	To understand the correct tool for the job, and safe and correct use of that tool.
	3	30		Indiana Plumbing Code definitions	To understand the terms used, and parts of a plumbing system.
	4	6		Introduction to Rigging	tie safe and easy knots and basic rigging safety.
	5	36	2nd Sem	Beginning Welding (SMAW)	welding processes, rods, settings and begin SMAW flat position hands on.
	6	54		Beginning Drawing	drawing and their uses, using drawing tools to create plan and isometric drawings.
	7	54		Math 1	math basics skills and start understanding construction math and measurements.
	8	8		Standards for Excellence	what is expected of a good UA craftsman and union member.
	9	36		Pipes, Valves, Fittings & Supports	different types of materials and pipe types used in plumbing systems.
	10	12		Copper Soldering & Brazing	correct joining techniques of copper systems including theory and practical exercises.

2nd Year	Learning Objectives	Contact Hours	Course	Coursework Description	
	1	32	1st Sem	Carrier Installation	fixtures carriers, and their application and installation requirements of them.
	2	32		Drawing II	types and uses of drawings creating and retrieving info from them.
	3	16		Personal Finance	To learn budgeting, saving for the slow times and the future.
	4	48		Technical Writing	To learn types of documents, their layout and creation as well as use of templates.
	5	32	2nd Sem	Drawing III	advanced print reading, layout and understanding a spec book .
	6	32		Math II	pipe offset formulas and fractional and percent grade calculations.
	7	32		Rigging II	hands on rigging, capacities of equipment and understanding center of gravity .
8	32	Underground piping		hands on layout and installation of underground sanitary systems.	

3rd Year	Learning Objectives	Contact Hours	Course	Coursework Description	
	1	32	1st Sem	Drainage	requirements of storm, sanitary and special wastes.
	2	32		Computer Aided Drafting AutoCAD	view, edit and create drawing using AutoCAD software.
	3	32		Fixtures	hands on installation and review of associated cut and spec sheets.
	4	32		Above grade piping	hands on above grade piping installations in residential and commercial applications.
	5	32	2nd Sem	Autodesk REVIT	view, edit and create drawing using Revit software in preparation for Trimble total station.
	6	32		Math 3	use, hands on, the pipe, rotary and line lasers used in construction.
7	64	Labor History		understand where we came from, and where we are going as a union.	

4th Year	Learning Objectives	Contact Hours	Course	Coursework Description	
	1	32	1st Sem	Trimble layout	understanding, hands on and technical aspects of Trimble total station layout.
	2	32		Water Supply and Distribution	sizing, installation and troubleshooting of water supply systems.
	3	32		Gas Installations	sizing, codes, pipe types and requirements of gas supply systems.
	4	32		Plumbing Service	personal, communication and technical skills required to perform service calls.
	5	64	2nd Sem	IN Plumbing Code	understand and interpret the Indiana Plumbing and Building Code.
6	64	Human Relations		understand workers behavior and skills needed to be a craftsman and leader.	

5th	Learning Objectives	Contact Hours	Course	Coursework Description	
	1	64	1st Sem	Welding 2,3,4	Learn flat, vertical, horizontal, overhead and pipe welding skills using SMAW , GMAW.
	2	64		Foreman/Supervisor	skills required to understand and advance to leadership positions.
	3	64	2nd Sem	Cross Connection Prevention	prevent cross connections and test backflow prevention devices. (cert class)
4	64	Basic Electrical		understand basic electrical circuits for water heaters and plumbing appliances.	