

Plumbing Technology

Degrees:

AAS * Plumbing Technology 60-63
(* AAS degree not offered at Jefferson)

Diploma Plumber Mechanic 45-51

Certificate

Certified Backflow Tester	3
Finish Plumber	17
Maintenance Plumber	13
1st Year Plumber Mechanic	16
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Rough Plumber	17
Service & Repair Plumber	20-21

Description:

Installing water supply and waste disposal systems in residential, commercial, and highly complex industrial sites is the focus of the plumbing program. In addition to practical experiences, instruction is given in laws and codes, blueprint reading, drawing, special equipment and other related areas.

Progression in the Plumbing technology program is contingent upon achievement of a grade of "C" or better in each PLB and BRX course and maintenance of a 2.0 cumulative grade point average or better (on a 4.0 scale).

Implementation: Spring 2008

Competencies:

AAS in Plumbing Technology

Upon completion of this program, the graduate can:

General Education Competencies:

- I. Communicate Effectively
 1. Read and listen with comprehension.
 2. Speak and write clearly using standard English.
 3. Interact cooperatively with others using both verbal and non-verbal means.
 4. Demonstrate information processing through basic computer skills.
- II. Think Critically
 1. Make connections in learning across the disciplines and draw logical conclusions.
 2. Demonstrate problem solving through interpreting, analyzing, summarizing, and/or integrating a variety of materials.
 3. Use mathematics to organize, analyze, and synthesize data to solve a problem.
- III. Learn Independently
 1. Use appropriate search strategies and resources to find, evaluate, and use information.
 2. Make choices based upon awareness of ethics and differing perspectives/ideas.
 3. Apply learning in academic, personal, and public situations.
 4. Think creatively to develop new ideas, processes, or products.
- IV. Examine Relationships in Diverse and Complex Environments
 1. Recognize the relationship of the individual to human heritage and culture.
 2. Demonstrate an awareness of the relationship of the individual to the biological and physical environment.
 3. Develop an awareness of self as an individual member of a multicultural global community.

Technical Competencies:

Upon completion of the program, the graduate can:

1. Perform the duties and the job requirements as directed by a journeyman plumber.
2. Sit for the journeyman plumber license exam upon meeting the qualifications as set by the state of Kentucky requirements {318.040}.
3. Receive license upon passage of the exam and completion of 2000 hours of field work.

Plumber Mechanic (Diploma)

General Education Competencies:

(Competencies will be met at the level appropriate to the credential.)

- I. Communicate Effectively
 1. Read and listen with comprehension.
 2. Speak and write clearly using standard English.
 3. Interact cooperatively with others using both verbal and non-verbal means.
 4. Demonstrate information processing through basic computer skills.
- II. Think Critically
 1. Make connections in learning across the disciplines and draw logical conclusions.
 2. Demonstrate problem solving through interpreting, analyzing, summarizing, and/or integrating a variety of materials.
 3. Use mathematics to organize, analyze, and synthesize data to solve a problem.
- III. Learn Independently
 1. Use appropriate search strategies and resources to find, evaluate, and use information.
 2. Make choices based upon awareness of ethics and differing perspectives/ideas.
 3. Apply learning in academic, personal, and public situations.
 4. Think creatively to develop new ideas, processes, or products.
- IV. Examine Relationships in Diverse and Complex Environments
 1. Recognize the relationship of the individual to human heritage and culture.
 2. Demonstrate an awareness of the relationship of the individual to the biological and physical environment.
 3. Develop an awareness of self as an individual member of a multicultural global community.

Technical Competencies:

1. Perform the duties and the job requirements as directed by a journeyman plumber.
2. Sit for the journeyman plumber license exam upon meeting the qualifications as set by the state of Kentucky requirements {318.040}.
3. Receive license upon passage of the exam and completion of 2000 hours of field work.

Certificates

Certified Backflow Tester

Upon completion of this program, the graduate can:

1. Explain both the state code requirements and local water company service rules for the use & installation of approved backflow prevention devices.
2. Conduct cross connection survey of property.
3. Make recommendation of the proper backflow device to the property owner.
4. Conduct the annual test of backflow prevention devices as required by state code & water company service rules.

Finish Plumber

Upon completion of this program, the graduate can:

1. Set plumbing fixtures and connect fixtures to the Drain Waste & Vent piping system.
2. Connect fixtures to the water stud outs.
3. Test fixtures for proper operation.

Maintenance Plumber

Upon completion of this program, the graduate can:

1. Repair faucets and mixing valves (any replacement requires a license plumber).

2. Clean fixture's traps & / or drain.
3. Make repair leaks in water supply lines, &/ or drains,(any replacement requires a license plumber).

1st Year Plumber Mechanic

Upon completion of this program, the graduate can:

1. Assist a journeyman plumbing in the rough-in of the Drain, Waste & Vent system of a building.
2. Assist a journeyman plumber in the setting of fixtures & plumbing appurtenance.
3. Assist a journeyman plumber in the installation of water service, or sewer.

2nd Year Plumber Mechanic

Upon completion of this program, the graduate can:

1. Assist a journeyman plumbing in the rough-in of the Drain, Waste & Vent system of a building.
2. Assist a journeyman plumber in the setting of fixtures & plumbing appurtenance.
3. Assist a journeyman plumber in the installation of water service, or sewer.
4. Run required test of a plumbing system under the direction of a licensed plumber.
5. Estimate the materials need for the rough-in of plumbing system.
6. Replace a water heater under the direction of a journeyman plumber.
7. Perform service work similar to that of a maintenance plumber.

Plumber Estimator

Upon completion of this program, the graduate can:

1. Estimate the pipe, fitting & miscellaneous materials need for the rough-in of plumbing system.
2. Estimate the materials need for the finishing (setting of fixtures) of the plumbing system.

Plumber's Helper

Upon completion of this program, the graduate can:

1. Assist a plumber with the installing of fixtures.
2. Assist the plumber with sewer and water service lines.
3. Install water risers and supply lines while under the direct supervision of a licensed plumber.
4. Dig the trencher for the ground work during the rough-in phase.
5. Back fill trenchers after inspection.
6. Set up tools and equipment needed by a plumber.

Rough Plumber

Upon completion of this program, the graduate can:

1. Lay out and drill holes required for the installation of the DWV piping under supervision of a licensed plumber.
2. Assemble the DWV piping as instructed by the license plumber on site.
3. Prepare the DWV piping system for a rough test.
4. Dig the trenches needed for the water service and sewer.

Service and Repair Plumber

Upon completion of this program, the graduate can:

1. Repair faucets & valves.
2. Clean traps, trap drains & building drains.
3. Clean building sewer.
4. Assist a licensed plumber in the replacement of water heater.
5. Assist with the replacement of a water service or sewer.
6. Assist with the replacement of any plumbing fixture or appurtenance or appliance.

Outlines:

AAS Plumbing Technology

General Education:

ENG 101 Writing I

Mathematics	3
Science	3
Social Interaction	3
Heritage/Humanities/Foreign Language	3
Computer Literacy	3
Oral Communications	3
Subtotal	21

Technical Courses:

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)
PLB	160	Plumbing Systems, DWV & Water	3
PLB	161	Rough-In of Plumbing Fixtures	2
PLB	250	Plumbing Appliances & Fixtures	3
PLB	251	Pumps & Water Heaters	2
PLB	260	Service AND	2
PLB	261	Advanced Plumbing Lab OR	2
PLB	265	Valve & Faucet Repairs AND	(1)
PLB	267	Water Heater Service & Replacement AND	(1)
PLB	269	Sewer & Drain Cleaning	(1)
PLB	262	Back Flow Prevention	3
PLB	270	License Preparation for Journeyman Exam	3
PLB	298	Practicum/Repairs & Maintenance OR	4
PLB	299	Cooperative Education	(4)
BRX	220	Blueprint Reading for Construction	3
BA	120	Personal Finance OR	3
EFM	100	Personal Financial Management	(3)
BA	250	Business Employability Seminar OR	1
WPP	200	Workplace Principles	(3)
ISX	100	Introduction to Industrial Safety OR	3
IS	100	Industrial Safety	(3)
		Subtotal	39-42
		Total Credits	60-63

**Diploma
Plumber Mechanic**

General Education: 6-9 credit hour requirement for diplomas in areas 1-3.

Area 1 = Writing/Accessing Information, Oral Communications, Humanities, or Heritage	3	
Area 2 = Mathematics	3	
Area 3 = Computer Literacy course or demonstrated competency		(0-3)
Subtotal	6-9	

Technical Core:

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)
PLB	160	Plumbing Systems, DWV & Water	3
PLB	161	Rough-In of Plumbing Fixtures	2
PLB	250	Plumbing Appliances & Fixtures	3
PLB	251	Pumps & Water Heaters	2
PLB	260	Service AND	2
PLB	261	Advanced Plumbing Lab OR	2

PLB	265	Valve & Faucet Repairs AND	(1)
PLB	267	Water Heater Service & Replacement AND	(1)
PLB	269	Sewer & Drain Cleaning	(1)
PLB	262	Back Flow Prevention	3
PLB	270	License Preparation for Journeyman Exam	3
PLB	298	Practicum/Repairs & Maintenance OR	4
PLB	299	Cooperative Education	(4)
BRX	220	Blueprint Reading for Construction	3
BA	120	Personal Finance OR	3
EFM	100	Personal Financial Management	(3)
BA	250	Business Employability Seminar OR	1
WPP	200	Workplace Principles	(3)
ISX	100	Introduction to Industrial Safety OR	3
IS	100	Industrial Safety	(3)
		Subtotal	39-42
		Total Credits	45-51

Certificates

Certified Backflow Tester*

PLB	262	Backflow Prevention	3
		Total Credits	3

*Requires that the graduate pass a written test with 80 percent accuracy and a 3-part performance test.

Finish Plumber

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)
PLB	250	Plumbing Appliances & Fixtures	3
PLB	251	Pumps & Water Heaters	2
		Electives (Technical Core)	6
		Total Credits	17

Maintenance Plumber

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)
PLB	115	Plumbing Applications	4
ISX	100	Introduction to Industrial Safety OR	3
IS	100	Industrial Safety	(3)
		Total Credits	13

1st Year Plumber Mechanic

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)
PLB	160	Plumbing Systems, DWV & Water	3
PLB	161	Rough-In of Plumbing Fixtures	2
PLB	250	Plumbing Appliances & Fixtures	3
PLB	251	Pumps & Water Heaters	2
		Total Credits	16

2nd Year Plumber Mechanic *

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)
PLB	160	Plumbing Systems, DWV & Water	3
PLB	161	Rough-In of Plumbing Fixtures	2
PLB	250	Plumbing Appliances & Fixtures	3
PLB	251	Pumps & Water Heaters	2
PLB	262	Backflow Prevention	3
PLB	260	Service AND	2
PLB	261	Advanced Plumbing Lab AND	2
PLB	270	License Preparation for Journeyman Exam OR	3
PLB	260	Service AND	(2)
PLB	265	Valve & Faucet Repairs AND	(1)
PLP	267	Water Heater Service & Replacement AND	(1)
PLB	269	Sewer & Drain Cleaning	(1)
		Total Credits	24-25

*Requires that the graduate pass a written test with 80 percent accuracy and a 3-part performance test.

Plumber Estimator

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)
PLB	160	Plumbing Systems, DWV & Water AND	3
PLB	161	Rough-In of Plumbing Fixtures OR	2
PLB	250	Plumbing Appliances & Fixtures AND	(3)
PLB	251	Pumps & Water Heaters	(2)
PLB	261	Advanced Plumbing Lab OR	2
PLB	265	Valve & Faucet Repairs AND	(1)
PLB	267	Water Heater Service & Replacement AND	(1)
PLB	269	Sewer & Drain Cleaning	(1)
PLB	270	License Preparation for Journeyman Exam	3
BRX	220	Blueprint Reading for Construction	3
BA	250	Business Employability Seminar OR	1
WPP	200	Workplace Principles	(3)
		Mathematics	3
		Computer Literacy	0-3
		Total Credits	23-29

Plumber's Helper

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)
		Electives (Technical Core)	3
		Total Credits	9

Rough Plumber

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)

PLB	160	Plumbing Systems, DWV & Water	3
PLB	161	Rough-In of Plumbing Fixtures	2
		Electives (Technical Core)	6
		Total Credits	17

Service and Repair Plumber

PLB	150	Plumbing, Introduction to the Trade AND	3
PLB	151	Basic Plumbing Skills OR	3
PLB	100	Basic Theory of Plumbing AND	(3)
PLB	105	Plumbing Principles	(3)
PLB	160	Plumbing Systems, DWV & Water	3
PLB	161	Rough-In of Plumbing Fixtures	2
PLB	250	Plumbing Appliances & Fixtures	3
PLB	251	Pumps & Water Heaters	2
PLB	260	Service & Code Review	2
PLB	261	Advanced Plumbing Lab OR	2
PLB	265	Valve & Faucet Repairs AND	(1)
PLB	267	Water Heater Service & Replacement AND	(1)
PLB	269	Sewer & Drain Cleaning	(1)
		Total Credits	20-21

Dates of Actions:

Approved: 2002

Revised: 2003, May 2007