

PLUMBING

Pathway: Construction, Maintenance & Utilities
Chair: William (Bill) Elarton, Room SQ/B-122
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Award Title	Award Type	GE Units	Required Course Units	Major Elective Units	Major Units
Plumbing* —(day only)	A.S.	21*	48	-	48
Plumbing —(day only)	C		48	-	48
Plumbing: Construction Tech* —(evening only)	A.A.	21*	37	8	45
Plumbing: Construction Tech* —(evening only)	C		37	8	45

At least 60 degree applicable units are required to earn an Associate degree.

*This Associate Degree is eligible for a reduction of General Education requirements from 21 to 18 units; please consult with a counselor for more details.

For additional related degrees and certificates, refer to Water Systems Technology.

PROGRAM OVERVIEW

Most people are familiar with plumbers, those individuals who come to their home to unclog a drain or install an appliance. Plumbers install, maintain, and repair many different types of pipe systems. Some systems move water to a municipal water treatment plant and then to residential, commercial, and public buildings. Other systems dispose of waste, provide gas to stoves and furnaces, or provide for heating and cooling needs. Pipe systems in power plants carry the steam that powers huge turbines, while pipes also are used in manufacturing plants to move material through the production process. Specialized piping systems are critical in both pharmaceutical and computer-chip manufacturing. The existence of such various pipe systems generate the need for trained plumbers.

Plumbers must be able to follow building plans or blueprints and instructions, lay out the job, and work efficiently with the materials and tools of their trade. Computers and specialized software are used to create blueprints and plan layouts. To meet the training needs of persons interested in becoming a service and repair plumber or a commercial construction plumber, LATTC offers a Plumbing Associate in Science degree and a Plumbing Construction Technologies Associate in Arts degree, as well as Certificates of Achievement.

The Associate in Science degree is designed for individuals seeking entry level positions in the field. Students enrolling in this program should be able to commit to full-time student status, which is approximately 24 hours per week. This time commitment is necessary to allow for hands-on training with the laboratory applications used during the course of instruction.

The Associate in Arts degree is an evenings-only course of study designed for individuals currently in the field who want to improve or expand their skills. Due to limitations on available evening hours, the utilization of hands-on laboratory application is assumed to be provided at the student's place of employment. Depending on availability, the Associate in Arts degree may require slightly longer time to complete due to limited hours available. Check with the Department Chair for more details prior to enrolling.

Plumbers work in commercial and residential settings where water and septic systems need to be installed and maintained. They also work outdoors, sometime in remote areas, as they build the pipelines that connect sources of oil, gas, and chemicals with the users of these materials. Because plumbers frequently must lift heavy pipes, stand for long periods, and sometimes work in uncomfortable or cramped positions, they need physical strength as well as stamina.

By fulfilling the program requirements, students will have the necessary knowledge and skills for a career in residential, commercial, and industrial service and repair or construction plumbing. Reading of blueprints, layout, estimating, installation of piping systems and fixtures, repair of supply and waste water systems are just some of the skills that will be mastered during this program.

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Associate in Science Degree Major Units: 48

Requirements for the Associate in Science degree in Plumbing may be met by completing 48 units of Required Courses with a "C" or better along with General Education units. Information on the General Education unit requirements may be found in the catalog under Graduation/Transfer Requirements.

PROGRAM LEARNING OUTCOMES (PLOs)

Upon completion of the Degree/Certificate program, students are able to:

1. Demonstrate proper procedures and techniques required to construct a plumbing system, utilizing plumbing tools, in preparation for the Apprentice-level employment in the plumbing trade.
2. Perform standard industry trade calculations and formulas including measurements to lay out to design a basic plumbing system..
3. Recall, restate and apply current plumbing codes, industry rules, regulations, legal standards and procedures to the construction of an operable plumbing system following industry guidelines and restrictions according to the Uniform Plumbing Code for construction of commercial and residential.

REQUIRED COURSES

LEVEL I		UNITS
PLUMBNG 111	Introduction to Plumbing	3
PLUMBNG 112	Fundamentals of Plumbing	3
PLUMBNG 113	Basic Plumbing Principles and Practices	6
LEVEL II		UNITS
PLUMBNG 121	Working Drawings and Layout I	3
PLUMBNG 122	Plumbing Mathematics and Procedures II	3
PLUMBNG 123	Plumbing Practices and Installation	6
LEVEL III		UNITS
PLUMBNG 131	Working Drawing II	3
PLUMBNG 132	Plumbing Calculations and Procedures II	3
PLUMBNG 133	Installation and Plumbing Fixtures	6
LEVEL IV		UNITS
PLUMBNG 141	Advanced Layout and Procedures	3
PLUMBNG 142	Servicing of Plumbing Fixtures and Appliances	3
PLUMBNG 143	Plumbing Code I	3
PLUMBNG 144	Special Purposes Installation	3

SUPPLEMENTARY ELECTIVES

		UNITS
BLDGCTQ 101	Contract's License Law	3
ECONMT 100	(O.S.H.A.) Safety Standards: Construction and Industry	2
PLUMBNG 026	Plumbing Layout and Estimating I	3
PLUMBNG 027	Plumbing Layout and Estimating II	3
PLUMBNG 028	Plumbing Code I	3
PLUMBNG 029	Plumbing Code II	3
PLUMBNG 031	Backflow Prevention Devices	3
PLUMBNG 033	Plumbing Code III	3
PLUMBNG 145 †	Plumbing Installation and Service	3
PLUMBNG 941	Cooperative Education-Plumbing	4

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Certificate of Achievement

Major Units: 48

A Certificate of Achievement in Plumbing may be earned by completing 48 units of Required Courses listed under the Associate degree in Plumbing with a "C" or better in each course.

By fulfilling the program requirements, students will have the necessary knowledge and skills for a career in residential, commercial, and industrial service and repair or construction plumbing.

PLUMBING: CONSTRUCTION TECH

Associate in Arts Degree

Major Units: 45

Requirements for the Associate in Arts degree in Plumbing: Construction Tech may be met by completing 37 units of Required Courses and 8 units of Major Electives with a "C" or better along with General Education units.

By fulfilling the program requirements, students will have the necessary knowledge and skills for a career in Residential, Commercial, and Industrial Service and Repair or Construction Plumbing.

PROGRAM LEARNING OUTCOMES (PLOs)

Upon completion of the Degree/Certificate program, students are able to:

1. Use hand and power tools, testing equipment, and P.P.E required for performing work in the plumbing construction industry in accordance with industry standards.
2. Perform plumbing operations using hand and power tools in accordance with industry plumbing practices.
3. Perform trade calculations related to plumbing practices.

USEFUL LATTTC LINKS:

College Catalog: <http://college.lattc.edu/catalog/>

Financial Aid Office: <http://college.lattc.edu/financialaid/>

Counseling Department: <http://college.lattc.edu/counseling/>

General Education Information: <http://college.lattc.edu/catalog>

Construction, Design, and Manufacturing Pathway: <http://college.lattc.edu/cdm>

REQUIRED COURSES

SEMESTER I

		UNITS
PLUMBNG 028	Plumbing Code I	3
PLUMBNG 112	Fundamentals of Plumbing	3
WELDG/E 201A	Welding-Gas and Electric IA	1

SEMESTER II

		UNITS
PLUMBNG 026	Plumbing Layout and Estimating I	3
PLUMBNG 029	Plumbing Code II	3
WELDG/E 202B †	Welding - Gas and Electric II	1

SEMESTER III

		UNITS
OPMAINT 228	Steam Plant Operation I	6
PLUMBNG 027	Plumbing Layout and Estimating II	3
PLUMBNG 033	Plumbing Code III	3

SEMESTER IV

		UNITS
OPMAINT 229	Steam Plant Operation II	6
PLUMBNG 031	Backflow Prevention Devices	3
PLUMBNG 246	Principles and Practices of Plumbing Design	4

MAJOR ELECTIVES

Select at least 8 units from the courses below

		UNITS
BLDGCTQ 101	Contract's License Law	3
ECONMT 181	Basic Wiring Practices	3
ECONMT 100	(O.S.H.A.) Safety Standards: Construction and Industry	2
ENGLISH 101	College Reading and Composition I	3
LABR ST 115	Workplace Health and Safety	1
LABR ST 127	Worker's Compensation	1
MARKET 021	Principles of Marketing	3
MATH 115	Elementary Algebra	5
MATH 245	College Algebra	3
PLUMBNG 145 †	Plumbing Installation and Service	3
PLUMBNG 250 †	Design and Construction Specialties	4
PLUMBNG 941	Cooperative Education- Plumbing	4

PLUMBING: CONSTRUCTION TECH

Certificate of Achievement

Major Units: 45

A Certificate of Achievement in Plumbing: Construction Tech may be earned by completing 37 units of Required Courses and 8 units of Major Electives listed under the Associates degree in Plumbing: Construction Tech with a "C" or better in each course.

You can register in these classes by logging on to the Student Information System at <http://college.lattc.edu/student/new-students/register-now/>

For additional information consult a LATTTC college counselor.

† Course currently unavailable