

Plumbing and Pipefitting Certificate

(Maintenance Technology – Associate Degree path)

This certificate program is designed to equip students with the foundational skills and knowledge necessary to gain an entry level position in the plumbing and pipefitting field. Through a blend of classroom lecture and application, students will learn the use and installation of pipes, valves and fixtures, as well as the type and operation of the required equipment. Foundational areas, including applied mathematics, blueprint reading, and welding, will also be covered.

This certificate is designed to prepare students for success in careers in the plumbing and pipefitting industry. Students who are interested in this field should be aware that most states, including Michigan, require plumbers to pass a test and be licensed. The preparation for becoming licensed includes a mandatory apprenticeship, which requires a sponsoring employer where the plumbing apprentice will work under the supervision of a licensed authorized master plumber for a specified period of time. As the construction and manufacturing industries continue to grow and evolve, plumbers and pipefitters will be in demand to install, maintain and repair several different types of pipe systems. This program is a good fit for individuals who enjoy being active and working with their hands, with an emphasis on mechanical and troubleshooting skills.

A certificate will be awarded to students who successfully complete the following courses:

Career Preparation and Related Courses

		SUGGESTED SEQUENCE				CREDIT HOURS	CONTACT HOURS
ATAM 1150	Shop Arithmetic	■	□	□	□	2	32
CNST 1100	Blueprint & Math—Residential	■	□	□	□	2	32
ATWD 1110	Fundamentals of Gas & Arc Welding	■	□	□	□	2	32
ATPP 1100	Plumbing Fundamentals	■	□	□	□	2	32
ATAM 1160	Algebra	□	■	□	□	2	32
ELEC 1300	Electric Theory—Electrical Equipment & Introduction to Machine Circuits	□	■	□	□	2	32
ATSS 1150	Steam—Heat Fundamentals	□	■	□	□	2	32
ATTR 1600	Industrial Safety—Skilled Trades	□	■	□	□	2	32
ATPP 1110	Plumbing—Drain, Waste & Vent	□	□	■	□	2	32
ATPP 1120	Plumbing—Heating	□	□	■	□	2	32
ATSS 1160	Steam—Steam Boilers (Low & High Pressure Operations)	□	□	■	□	2	32
ATWD 1130	Shielded Metal Arc Welding (SMAW)	□	□	■	□	2	32
ATPP 1130	Plumbing—Code	□	□	□	■	2	32
ATPP 1140	Pipefitting—Power Piping Systems	□	□	□	■	3	48
CLCT 1200	Fundamentals of Air Conditioning & Refrigeration	□	□	□	■	3	64
Total						32	528

In cases where prior training or education is documented, specific courses may be substituted for one or more of the above courses as conditions warrant. Suggested alternate courses, which may also be used as electives toward an associate degree, are listed below for consideration. Contact the Applied Technology and Apprenticeship department for details.

Suggested Alternative/Elective Courses:

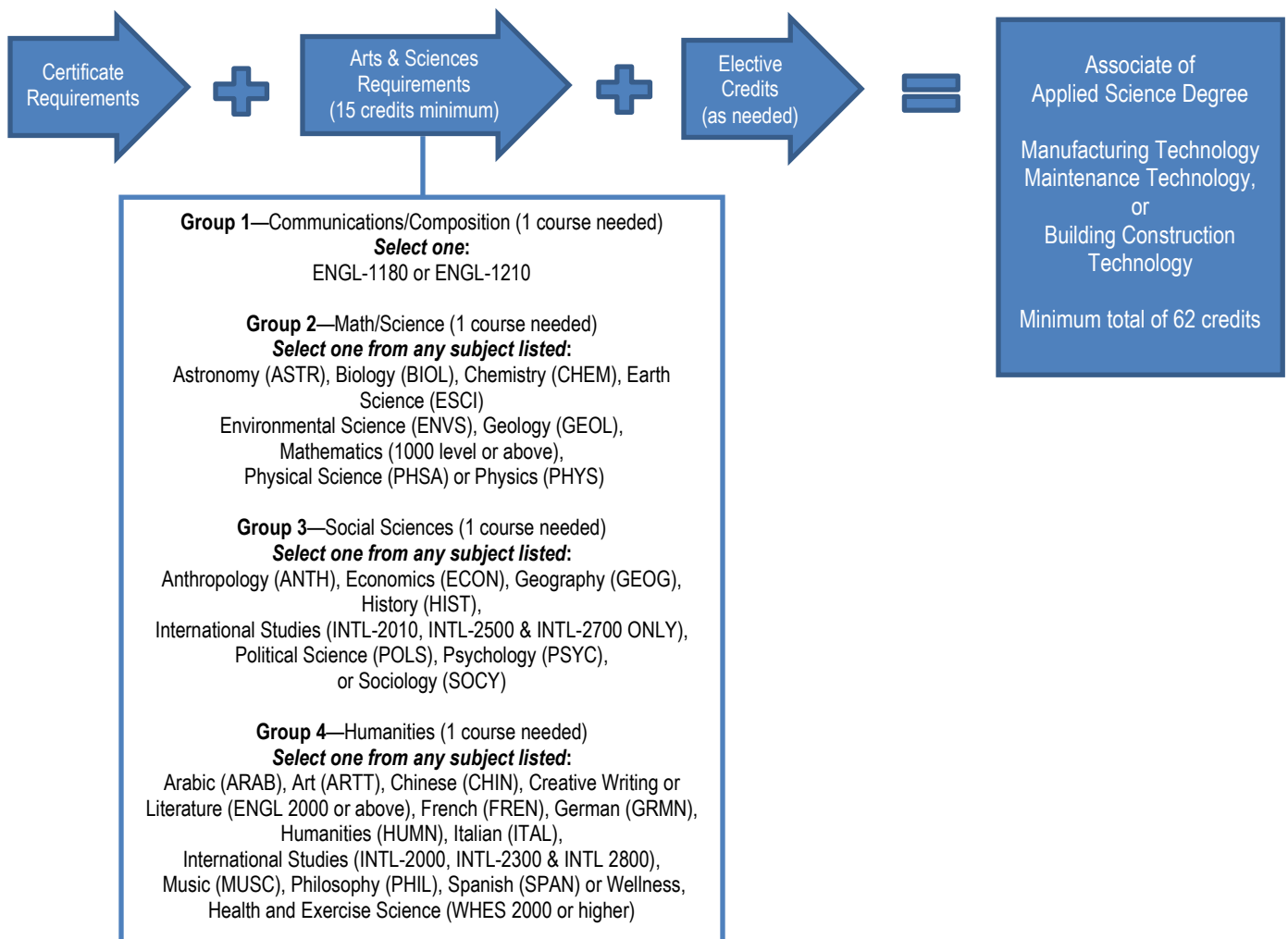
CNST 1150	Blueprint & Math—Commercial	ATBC 1180	Construction—Electrical Blueprint Reading Residential
MECT 1320	Industrial Hydraulic Fundamentals	ATMT 1300	Metallurgy—Characteristics of Ferrous Metals
ELEC 2410	Pneumatics Technology Fundamentals	ATMT 1950	Science-Physics 1: Mechanics
ATAM 1170	Geometry	ATAM 2150	Trigonometry
CNST 1160	Construction Cost Estimating	MECT 1310	Pneumatics Technology Fundamentals

SEE SECOND PAGE/REVERSE SIDE FOR ASSOCIATE DEGREE REQUIREMENTS

Associate of Applied Science Degree Requirements (Minimum 62 credit hours)

An Associate of Applied Science Degree is offered for those enrolled in or completing an Apprenticeship, Employee-In-Training, or General Certificate Program. Other College requirements apply, including the completion of the arts and sciences (general education) requirements as well as attaining a minimum overall total of 62 credit hours. See Apprentice Coordinator or Advisor for details.

Students may graduate with an Associate of Applied Science Degree in Manufacturing Technology, Maintenance Technology, or Building Construction Technology, depending on the Apprenticeship, Employee-In-Training or General Certificate Program area of specialty.



Information is subject to change. Please visit www.macomb.edu for the most current information.

For more information on the Plumbing and Pipefitting Certificate Program at Macomb, contact the Applied Technology and Apprenticeship Department at 586.445.7438 or apprenticeship@macomb.edu .