

# APPLIED INDUSTRIAL TECHNOLOGY (PLUMBING), ASSOCIATE OF APPLIED SCIENCE



This program is offered in partnership with The United Association of the Plumbing and Pipe Fitting Industry at various local training centers around the state. Students must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training, and the United Association (UA).

The apprenticeship program prepares the student to earn a journey-level status in Plumbing; as well as earn an Associate of Applied Science Degree in Plumbing Technology. A five-year apprenticeship emphasizes the skill set required to be a highly skilled craftsman. An apprentice will learn to install, repair, maintain and service piping systems, plumbing systems and equipment used for drinking (potable) water distribution, sanitary storm water systems and waste disposal. Additional opportunities for plumbers can include technical installations for Medical Gas, Hydronic in-floor heating, Solar Panels, Heat Pumps, Cross-Connection Control and many other systems necessary for the health and safety of the general public.

**Program contact:** Learn more

**This degree program contains one or more embedded certificates which will be automatically awarded when the certificate requirements are completed. If you do not want to receive the embedded certificate(s), please notify the Office of the Registrar at RegistrarOffice@tri-c.edu.**

Learn more about how certificate credits apply to the related degree.

## Related Degrees and Certificates

- Plumbing, Certificate of Proficiency

## Program Admission Requirements

- High School Diploma/GED
- Participant must be currently working in a registered apprenticeship program in conjunction with the U.S. Department of Labor, Bureau of Apprenticeship and Training, and the United Association (UA).

## Next Steps to Apply

- Individuals interested in this program/certificate must reach out to the training center of your choice listed at the bottom of the Plumbers program page on the Tri-C website.

- The union must select and admit you into the apprenticeship program first.
- Once accepted into the apprenticeship program, a Tri-C representative will work with you directly to enroll in the credit courses. Each of the classes will be held at your training center.

## Program Learning Outcomes

This program is designed to prepare students to demonstrate the following learning outcomes:

1. Communicate verbally, non-verbally and in writing with the construction team that include members of other trades, contractors, customers, and public officials and agencies.
2. Work independently and in a team setting to accomplish work in a timely, professional, and cost effective manner.
3. Act according to the United Association of Plumbers and Pipe Fitters Code of Excellence and continually upgrade knowledge and skills.
4. Recognize, analyze and apply critical thinking to resolve issues as they arise while minimizing waste and improving productivity.
5. Use appropriate personal protective equipment and fall protection to ensure a safe and environmentally sensitive work environment in accordance with OSHA and other federal, state, local and contractor's standards, policies, and regulations.
6. Apply basic and advanced math concepts and operations and blueprint reading to accurately determine layout in order to fabricate and complete various pipe trade tasks that minimizes waste.
7. Apply knowledge of math, pipe hydraulic theory, blueprints, and tools to install, repair and test basic piping systems that meet industry codes and standards.
8. Apply knowledge of advance math to install, repair and test Potable Water, Storm/Sanitary Drainage, Fuel Gas and Medical Gases Systems according to national, state, local and other applicable industry codes and standards.
9. Obtain all required certifications in the plumbing industry.

## Suggested Semester Sequence

First Semester		Credit Hours
ATPL-1000	Care and Use of Tools	2
ATPL-1010	Soldering and Brazing	2
ATPL-xxxx	Plumbing elective	2
ATPL-1070	Pipe Fittings, Valves, and Supports	2
Any Approved Ohio Transfer 36 Mathematics course <sup>1</sup>		3
Select one of the following:		3
BADM-xxxx	Business Elective	
CNST-xxxx	CNST Elective	
<b>Credit Hours</b>		<b>14</b>
Second Semester		
ATPL-xxxx	Plumbing Elective	2
ATPL-1030	State of Ohio Plumbing Code I	2
Select one of the following:		2-3
BADM-xxxx	Business Elective	
CNST-1290	Construction Print Reading	
Select one of the following:		3
ENG-1010	College Composition I	
ENG-101H	Honors College Composition I	

Select one of the following:	3
IT-1090 Computer Applications	
IT-109H Honors Computer Applications	

<b>Credit Hours</b>	<b>12-13</b>
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**Third Semester**

ATPL-xxxx Plumbing Elective	2
ATPL-1220 Gas Systems	2
ATPL-1230 Water Supply	2
ENG-2151 Technical Writing	3

Natural and Physical Sciences Requirement	3
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Select one of the following:	3
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BADM-xxxx Business Elective	
CNST-xxxx CNST Elective	
FIN-1061 Personal Finance	

<b>Credit Hours</b>	<b>15</b>
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**Fourth Semester**

AIT-2990 Contracting in a Diverse World	3
ATPL-2320 State of Ohio Plumbing Code III	2
ATPL-2350 Electricity for Plumbers	2
ATPL-xxxx Plumbing Elective	2

Arts & Humanities/Social & Behavioral Science requirement	3
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Select one of the following:	3
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BADM-xxxx Business Elective	
CNST-2131 Construction Methods and Materials	

<b>Credit Hours</b>	<b>15</b>
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**Summer Completion**

ATPL-xxxx Plumbing Elective	2
ATPL-2410 City & State Backflow Cert	2
ATPL-xxxx Plumbing elective	2

<b>Credit Hours</b>	<b>6</b>
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<b>Total Credit Hours</b>	<b>62-63</b>
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<sup>1</sup> MATH-1100 Mathematical Explorations or MATH-1240 Contemporary Mathematics taken prior to Fall 2024 will be accepted to meet Mathematics requirement.

**Electives****Business Electives**

Select from the following courses to meet 12 credit elective requirements.

Code	Title	Credit Hours
BADM-1020	Introduction to Business	3
BADM-1122	Principles of Management and Organizational Behavior	3
BADM-1301	Small Business Management	3
BADM-2450	New Business Development	5
BADM-2151	Business Law	3

**Construction Management Electives**

Code	Title	Credit Hours
CNST-1281	Construction Engineering Orientation	3
CNST-1290	Construction Print Reading	2
CNST-1510	Green Building & Sustainability I	3
CNST-2131	Construction Methods and Materials	3

MATH-1140, MATH-1141, MATH-1200, MATH-1270, and MATH-1280 can no longer count towards fulfilling the college-level mathematics requirement. These courses were re-classified as developmental mathematics by the state of Ohio in 2016. Tri-C established a 5-year transitioning window for students who had completed these courses prior to 2016 to apply them towards meeting graduation requirements, which expired in Summer 2021. It is highly recommended to see a counselor to determine the appropriate math required for your current major.