

ATPL-1000: CARE AND USE OF TOOLS

Cuyahoga Community College

Viewing: ATPL-1000 : Care and Use of Tools

Board of Trustees:

JUNE 2026

Academic Term:

Fall 2026

Subject Code

ATPL - Applied Ind Tech - Plumbers

Course Number:

1000

Title:

Care and Use of Tools

Catalog Description:

Identifies the hand and power tools used in the plumbing industry and discusses the operation and respective safety concerns as prescribed in the standards found in the Occupational Safety and Health Administration (OSHA) and in the manufacturer's specifications.

Credit Hour(s):

2

Lecture Hour(s):

2

Requisites

Prerequisite and Corequisite

Departmental approval: admission to Plumbers' apprenticeship program.

Outcomes

Course Outcome(s):

Demonstrate proper identification, selection, and use of hand and power tools commonly used in the plumbing industry.

Objective(s):

1. Identify and classify hand tools, power tools, and specialized plumbing tools based on function and application.
2. Demonstrate correct use of layout, measurement, cutting, clamping, threading, and drilling tools.
3. Apply appropriate tool selection techniques for installation tasks involving offsets, angles, and pipe systems.

Course Outcome(s):

Apply safe work practices and maintenance procedures in accordance with OSHA regulations and manufacturer specifications.

Objective(s):

1. Follow OSHA safety regulations and manufacturer guidelines when operating hand and power tools.
 2. Demonstrate correct use of personal protective equipment (PPE), fall protection, and aerial lift safety practices.
 3. Perform basic tool maintenance, including lubrication and inspection for defects, to ensure safe and effective operation.
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Methods of Evaluation:

1. Homework
2. Quizzes

- 3. Shop exams
- 4. Final exam

Course Content Outline:

- 1. Tool identification
 - a. Hand tools
 - i. Layout, measurement and general
 - ii. Cutting hand tools
 - iii. Clamping devices
 - b. Power tools
 - i. Pipe threading machines
 - ii. Drilling and boring
 - iii. Cutting and rodding
- 2. Use of tools
 - a. Layout tools
 - i. Centerline establishment
 - ii. Line transfer
 - iii. Offsets and angles
 - b. Installation
 - i. Tube cutters
 - ii. Wrenches and clamps
 - iii. Saws
 - c. Power tools
 - i. Drills
 - ii. Boring machines
 - iii. Cutting devices
- 3. Tool maintenance
 - a. Lubrication
 - b. Inspection for defects
- 4. Safety
 - a. OSHA regulations
 - i. Personal protective equipment
 - ii. Fall protection
 - iii. Aerial lifts
 - b. Manufacturer's specifications

Religious Accommodation

Before reviewing the course schedule, students should carefully review the following religious accommodation policy and other required instructional policies:

Religious Accommodation:

Students seeking an accommodation for absences permitted under Ohio's Testing Your Faith Act must provide the instructor with written notice of the specific dates for which the student requires an accommodation and must do so not later than fourteen (14) days after the first day of instruction. Please submit requests for accommodations at this link: <https://portal2.tri-c.edu/ReligiousAccommodation/ReligiousAccommodationForm>. Students with questions about their religious accommodations under Ohio's Testing Your Faith Act may contact the College's Office of General Counsel and Legal Services by phone at 216.987.4856 or via email at legal@tri-c.edu.

Other Required Instructional Policies:

<https://www.tri-c.edu/student-resources/curriculum/documents/syllabus-part-b.pdf>

Weekly Schedule

	Topics
Week 1	Introduction to Tools and Safety Overview
Week 2	Tool Identification and Classification
Week 3	Hand Tools: Types and Uses
Week 4	Layout and Measurement Tools

Week 5	Cutting Hand Tools
Week 6	Clamping Devices and Wrenches
Week 7	Saws and Manual Cutting Devices
Week 8	Power Tools: Overview and Safety
Week 9	Drills and Boring Machines
Week 10	Pipe Threading Machines
Week 11	Cutting and Rodding Equipment
Week 12	Layout Tools: Centerlines, Line Transfer
Week 13	Offsets, Angles, and Installation Tools
Week 14	Tool Maintenance and Lubrication
Week 15	Tool Inspection and Defect Identification
Week 16	OSHA Regulations, PPE, and Manufacturer Specifications

The Course Schedule is subject to change due to pedagogical needs, instructor discretion, parts of term, and unexpected events.

Required/Recommended Readings

Instructor-provided materials

Resources for the Instructor

Graces, W.V. *The Pipefitters Blue Book*. Revised. Webster, TX: Graves Publishing Company, 2011.

Frankland, Thomas. *Pipe Fitter's and Pipe Welder's Handbook*. Revised. New York: McGraw-Hill, 2005.

United Association Training Committee. *Use and Care of Tools*. Annapolis, MD: United Association, www.ua.org/training

Occupational Safety and Hazard Administration. *Standards for Construction*. OSHA, www.osha.gov

Additional Resources for the Instructor

www.releeco.com/productnew.php (<https://catalog.tri-c.edu>www.releeco.com/productnew.php)

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