

ATGL-1330: HAND TOOLS FOR GLAZIERS

Cuyahoga Community College

Viewing: ATGL-1330 : Hand Tools for Glaziers

Board of Trustees:

September 2025

Academic Term:

Fall 2025

Subject Code

ATGL - Appld Indus Tech - Glazing

Course Number:

1330

Title:

Hand Tools for Glaziers

Catalog Description:

Introduction to hand tools for glazing, including basic hand tools such as screwdrivers, wrenches, pliers; levels and transits; glass, plastic, and metal cutters; lifters and tongs, punches, chisels, rivet guns and taps.

Credit Hour(s):

2

Lecture Hour(s):

2

Requisites

Prerequisite and Corequisite

Departmental approval: Admissions to Glazing Technology apprenticeship program.

Outcomes

Course Outcome(s):

Identify and use a wide variety of tools in glazing.

Objective(s):

1. Differentiate between various basic hand tools.
2. Identify different types of screwdrivers and wrenches.
3. Decipher Plumb bobs and chalk lines.

Course Outcome(s):

Identify various levels and transits and their components.

Objective(s):

1. Recognize the various types of levels.
2. Describe the various uses of transits.

Course Outcome(s):

Demonstrate the use of glass, plastic, metal cutters, glass breakers and scrapers.

Objective(s):

1. Identify various glass cutters and describe how each works.
2. Demonstrate how to use plastic cutters.
3. Differentiate between the many types of knives.

Course Outcome(s):

Demonstrate the proper and safe procedures for working, lifting, and moving glass with cups.

Objective(s):

1. Discuss how and when to use a Glass cups and their history.
2. Explain how to properly place a piece of glass on a glass cart.

Course Outcome(s):

Demonstrate the proper and safe use of punches, chisels, rivet guns, taps, plate lifters, and glass tongs.

Objective(s):

1. Differentiate between pliers, shears, and tin snips.
2. Discuss the many uses of files and putty knives.
3. Determine which metal hammer and rubber mallet to use for specified job.
4. Decipher between punches, chisels, and prybars.
5. Describe the many uses of Rivet guns, taps, and tap wrenches.

Methods of Evaluation:

1. Quizzes
2. Exams
3. Classroom participation
4. Demonstration of assigned projects

Course Content Outline:

1. Identifying Tools
 - a. Basic hand tools
 - i. Tape measure
 - ii. Ruler
 - iii. Combination square
 - iv. Quick square
 - b. Screwdrivers and wrenches
 - i. Straight screwdrivers
 - ii. Phillips screwdrivers
 - iii. Torx screwdrivers
 - iv. Combination wrench
 - v. Fixed wrench
 - c. Plumb bob and chalk line
 - i. Plumb bob
 - ii. Chalk line
2. Levels and transits
 - a. Levels
 - i. Whisky stick
 - ii. 2' level
 - iii. 4' level
 - iv. Torpedo level
 - v. Computerized level
 1. Self-leveling
 2. Rotating

- 3. One direction
- 4. Multi direction
- 5. PLS
- vi. Transit level
 - 1. Proper set up
 - 2. Proper leveling
- 3. Glass/plastic cutters, glass breakers, and scrapers
 - a. Glass cutter
 - i. Diamond glass cutter
 - ii. Wheel glass cutter
 - iii. Circle cutters
 - iv. Glass hole saws
 - b. Plastic cutters
 - i. Plastic cutter
 - ii. Cut-off wheel
 - iii. Jig saw
 - c. Knives
 - i. Utility knives
 - ii. Utility blades
 - iii. Razor scraper
 - iv. Razor scraper blades
 - d. Moving and lifting glass
 - i. Glass cups
 - 1. 6" glass cups
 - 2. 8" glass cups
 - 3. Power cups
 - ii. Glass carts
 - 1. 4 wheel glass carts
- 4. Pliers, shears, tin snips, files, putty knives, metal hammers, rubber mallets, punches, chisels, prybars, rivit guns, taps and tap wrenches
 - a. Pliers, shears, and tin snips
 - i. Glass pliers
 - ii. Glass running pliers
 - iii. Slip joint pliers
 - iv. Diagonal pliers
 - v. Locking grip pliers
 - vi. Pruning shears
 - vii. Vinyl shears
 - viii. Left cut
 - ix. Right cut
 - x. Straight cut
 - b. Files and putty knives
 - i. Rough file
 - ii. Smooth file
 - iii. Circle file
 - iv. Single cut file
 - v. Double cut file
 - vi. Bastard file
 - vii. Straight knife
 - viii. Bent knife
 - ix. Tooling knives
 - c. Metal hammers and rubber mallets
 - i. Framing hammer
 - ii. Claw hammer
 - iii. Ball peen hammer
 - iv. Sledge hammer
 - v. Rubber
 - d. Punches, chisels, and prybars

- i. Center punch
- ii. Automatic punch
- iii. Metal punch
- iv. Wood punch
- v. Glaziers chisel
- vi. Wood chisel
- vii. Concrete chisel
- viii. Cold chisel
- ix. Wonder bar
- x. Jimmy bar
- xi. Pry bar

- e. Rivet guns, Taps, and tap wrenches
 - i. Air gun
 - ii. Regular rivet gun
 - iii. Pipe taps
 - iv. Fluted taps

Resources

Finishing Trades Institute. *Glass Cutting and Fabrication* . Hanover, MD: Finishing Trades Institute,

Finishing Trades Institute. *Basic Hand Tools*. Hanover, MD: Finishing Trades Institute,

Finishing Trades Institute. *Glass Cutting and Fabrication II*. Hanover, MD: Finishing Trades Institute,

Resources Other

FTI Personal Learning.com (<https://catalog.tri-c.edu>FTI Personal Learning.com), 2019.

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