PLCM COURSE STUDENT LEARNING OUTCOMES

PLCM 100 - Cement Masons 1st Year Apprenticeship

Students will be able to apply safe work habits including OSHA 10, first aid, and CPR.

Students will be able to use basic math (such as symbol recognition, adding, subtracting, multiplying, dividing whole numbers, fractions and decimals) to accurately calculate project materials based on blueprints; this includes a variety of methods to estimate various elements such as cubic yards of concrete for a project, number of rolls of welded wire fabric, linear feet of form lumber, etc.

Students will be able to apply the 3-4-5 (Pythagorean Theorem) method to lay out the perimeter of a building concrete slab.

Students will be able to utilize multiple modes of communication towards enhancing effectiveness in the work environment.

Students will be able to apply math to estimate the cubic yards and amount materials needed for a concrete project.

Students will be able to communicate accumulated technical data effectively with co-workers to apply that information toward completion of work assignments.

Students will be able to read basic blueprints at a proficient level.

PLCM 150 - Cement Masons 2nd Year Apprenticeship

Students will be able to calculate the area geometric figures to solve various installations they encounter on the job sites, such as angles to calculate the layout of concrete walls and floors to precise size and shape.

Students will be able to convert fractions and percentages, determine area, volume and cubic yards, and apply ratio and proportion problems to specific projects.

Students will be able to prepare a concrete mix and admixtures, including cement ingredients, process, mixing, specifications, and testing.

Students will be able to read and interpret project specifications and use appropriate tools of the trade properly.

PLCM 200 - Cement Masons 3rd Year Apprenticeship

Students will be able to apply math in the solution of problems, including matching units of measurements to correct equivalents, solving ratio and proportion problems, calculating the area of geometric figures, etc.

Students will be able to identify, competently use, and care for leveling, forming, hand, and power tools, including the ability to match the correct forming tool to the job.

Students will be able to reduce proper fractions, convert mixed numbers to improper fractions, add and subtract fractions to accurately calculate exact measurements for concrete form setting and various elevations in concrete.

Students will be able to synthesize safety principles for equipment for mixing cement, types of scaffolds and ladders, and miscellaneous other devices and equipment, including setting and using common leveling instruments.

PLCM 250 - Cement Mason 4th Year Apprenticeship

Students will be able to demonstrate knowledge of abrasive blasting, epoxy floors, and other special coatings.

Students will be able to prepare work sites appropriate for a variety of soil conditions and specifications.

Students will be able to practice advanced construction safety.