

Bricklayer *A Guide to Course Content*

Bricklayers lay concrete block, brick, pre-cut stone and other materials in the construction or repairing of structures.

Training Requirements: To graduate from each level of the apprenticeship program, an apprentice must successfully complete the required technical training and compile enough on-the-job experience to total at least 1500 hours each year. Total trade time required is 6000 hours and at least 4 years in the trade.

There are three levels of technical training delivered by Saskatchewan Polytechnic in Saskatoon:

Level One: 8 weeks
Level Two: 8 weeks
Level Three: 8 weeks

The information contained in this document serves as a guide for employers and apprentices, as well as briefly summarizes the training delivered at each level of apprenticeship training. An apprentice spends approximately 15% of the apprenticeship term in a technical training institute learning the technical and theoretical aspects of the trade. The hours and percentages of technical and practical training may vary according to class needs and progress.

The content of the technical training components is subject to change without notice.

Level One - 8 weeks

Construction Documents and Sketching

- Residential construction documents
- Basic masonry estimating
- Basic construction freehand sketches

Tools and Equipment

- Use and care of hand tools
- Use and care of portable tools
- Use of powder actuated tools

Masonry Materials

- Development of clay and concrete products
- Classification and manufacture of masonry units

Miscellaneous Masonry

- Identification and construction of piers and pilasters
- Construction of bond beams and lintels
- Walls and application of air/vapour barriers and insulation
- Maintenance and cleaning of masonry wall systems

General Safety

- Occupational Health and Safety Regulations
- Personal protective clothing and equipment
- Fall protection equipment
- Unsafe working environment
- Fire safety
- Industrial health hazards

Walls

- Identification and construction of masonry wall systems
- Various bond patterns
- Wall systems and building code requirements

Mortars

- Development of mortar
- Mortar types
- Mortar joints

Scaffolding

- Use of ladders and scaffolding
- Erection, maintenance and dismantling of wood and metal access scaffolding
- Basic rigging operations

Trade Mathematics

- Basic mathematics
- Mathematical calculations used in the construction process

Level Two - 8 weeks

Construction Documents and Sketching

- Construction documents and types of drawings
- Scaling and dimensioning
- Light commercial construction documents

Chimney Construction

- Chimney, flue liners and flashing description
- Chimney construction

Fireplace Construction

- Components of masonry fireplaces
- Construction of a masonry fireplace
- Insulating practices for masonry fireplaces

Arches

- Arch types and terminology
- Arch construction
- Temporary arch support work
- Bonded gauged arch

Stone Masonry

- Identify classifications of stone
- Prepare stone for installation
- Stone cladding

Miscellaneous Masonry

- Glass block masonry
- Step building, pavements and patio construction
- Overlay, cleaning, insulation, parging, rope and caulking procedure
- Cold weather masonry
- Horizontal masonry

Trade Mathematics

- Basic numeracy skills
- Metric and imperial systems of measurement
- Equation problems
- Building material estimates for brick, concrete masonry units and mortar

Level Three - 8 weeks

Construction Documents and Sketching

- Plot plans and elevations for residential and commercial construction
- Light commercial construction documents
- Freehand sketching

Estimating

- Estimate of materials for a commercial building
- Estimating procedures for masonry construction

Masonry Overlays

- Decorative wall design
- Decorative wall construction
- Identify procedures in overlay work

Advanced Bricklaying Techniques

- Building layout details
- Layout of the storey pole
- Planning a job

Masonry Restoration

- Analyzing restoration requirements for existing buildings
- Restoration procedures

Reinforced Masonry

- Reinforced masonry principles, uses, materials and placement
- Construction of reinforced masonry

Refractories

- Common refractory vessels and their use
- Types of refractory materials
- Use of refractory materials

Trade Mathematics

- Mathematical calculations involving decimals, fractions and per cents
- Metric and imperial system of weights and measures
- Trade problems involving algebra
- Building material estimation involving concrete

Practicum

- Practicum project design
- Practicum project construction

Masonry Review

- Work related activities
- Masonry systems
- Chimney and fireplace types, masonry heaters, and refractory materials
- Construction and layout of masonry arches
- Restoration requirements
- Refractories and corrosion resistant materials
- Miscellaneous masonry