

Essential Skills Outline

Trade: Carpenter

What is an Essential Skills Outline?

An Essential Skills Outline is part of an online program created by B.C.'s Industry Training Authority (ITA) to help you develop the Essential Skills you need to prepare for the technical training part of your apprenticeship.

Why? Because if you have the Essential Skills you need, you are eight times more likely to pass your technical training.

How? Essential Skills include reading, numeracy and using documents like blueprints. You need these basic skills to build technical skills.

An Essential Skills Outline describes the Essential Skills you need to pass the first two years of technical training in your trade. Each trade is different.

If you want to see how your Essential Skills measure up, you can do the online test at www.itabc.ca It will compare your scores to the Essential Skills listed in this outline.

Even if you have some experience in the trade, you will probably have Essential Skills gaps. Almost everyone does. The good news is that you can fill those gaps. The program points you to free online learning resources that focus only on the areas where you need a little help.

What are Essential Skills?



Essential Skills are the foundation for building technical skills.

- **Reading** - the ability to understand and interpret information in notes, letters, memos, manuals, specifications, regulations, books, reports and journals.
- **Document use** - the ability to find and understand information in graphs, maps, schematics and blueprints, or to enter information in documents such as entry forms.
- **Numeracy** - the ability to use basic and intermediate arithmetic, geometry, measurement and trigonometry to do your work.

Trade: Carpenter

Occupational Description

Carpenters build and repair a vast array of structures made of wood, wood-substitutes and other materials. Many work for construction companies, contractors and maintenance departments while others are self-employed. Carpenter is a nationally designated trade under the Inter-provincial Red Seal program.

Carpenters assemble and erect forms for concrete, wood and metal frame construction and use plans and instruments to prepare for excavating and shoring. On smaller projects, they direct concrete placement, and install exterior and interior finish materials such as siding, doors, windows and cabinets.

Carpenters also install floor beams, lay sub-flooring, erect walls and roof systems, and fit and install trim items.

There are different specializations within the carpentry trade.

1. Rough Carpenters construct forms and assemble basic structures.
2. Framing Carpenters erect and sheath the frame of houses and other buildings as well as install windows.
3. Finishing Carpenters work on the final stages of construction, such as the installation of doors, moldings and stairs.

Broadly speaking, the construction industry is divided between residential and industrial-commercial-institutional projects, and carpentry duties vary between these two types of work.

Essential Skills Requirements:

Note: Below are the Essential Skills you need for the first two years of technical training in this trade. The information is grouped into categories (e.g., safety, tools and equipment, work organization, trade mathematics, etc.) that are similar to those found in the ITA Program Outlines and ITA Profiles.

Line A: Safe Work Practices

Reading

Ability to understand short instructions and warnings written on signs, labels and packaging.

Ability to understand written instructions about the use of personal protective equipment.

Ability to understand written instructions in safety bulletins and Material Safety Data Sheets.

Ability to understand written manufacturers' instructions about the set-up, use and maintenance of power tools and shop equipment.

Ability to understand and interpret written Acts and regulations that govern occupational health and safety.

Document Use

Ability to identify icons used in WHMIS, fire control and other hazard management systems.

Ability to interpret warning and directional signs.

Line B: Documentation and Organizational Skills

Reading

Ability to understand short comments written on forms such as building permits and repair orders.

Ability to understand short comments written on technical drawings.

Ability to understand information contained in service and recall bulletins.

Ability to understand written instructions about the preparation of building materials such as mortars.

Ability to understand and interpret written information in text books, training manuals and technical reports.

Ability to understand and interpret written national, provincial and local building and fire codes.

Ability to understand permit application procedures.

Document Use

Ability to enter data such as dates and identification numbers into labels and tags.

Ability to locate data such as quantities in simple lists and tables.

Ability to locate information such as dimensions and the locations of components using basic isometric, orthographic and assembly drawings.

Ability to scan flowcharts to learn the sequencing of simple tasks and processes.

Ability to use legends and symbols found on technical drawings.

Ability to locate data such as identification numbers, specifications and quantities in moderately complex tables.

Ability to locate information such as dimensions and construction procedures using moderately complex isometric, orthographic and assembly drawings.

Ability to accurately complete complex entry forms such as building permits.

Ability to locate data such as specifications, classifications, material coefficients, identification numbers, quantities and costs in complex tables.

Ability to locate information such as dimensions, elevations, spans and the locations of fixtures using complex isometric and orthographic drawings.

Line C: Use Tools and Equipment

Reading

Ability to understand written manufacturers' instructions about the use and maintenance of hand tools such as chisels and levels.

Trade Mathematics

Arithmetic - Whole Numbers

Ability to add, subtract, multiply and divide whole numbers.

Arithmetic - Fractions

Ability to add, subtract, multiply and divide fractions.

Arithmetic - Decimals

Ability to add, subtract, multiply and divide decimals.

Arithmetic - Percents and Mixed Operations

Ability to use percent to locate numbers; add, subtract, multiply and divide signed numbers; and complete mixed operations with whole numbers, fractions, percents and decimals.

Data Analysis - Basic Skills

Ability to calculate and use totals, sub-totals and basic summary measures like averages and rates; perform proportional calculations.

Geometry - Basic Skills

Ability to analyze and draw lines and line segments; use coordinates to locate points in a plane; calculate angles; use concepts such as parallelism to solve problems.

Geometry - Plane Figures

Ability to calculate perimeters and areas of triangles, rectangles and circumferences of circles; analyze angles and distances in triangles, rectangles and circles; analyze complex shapes into constituent plane figures.

Geometry - Solids

Ability to calculate volumes of rectangular solids, cylinders and prisms; analyze complex volumes into constituent regular solids.

Geometry - Advanced Tasks

Ability to analyze angles and distances in plane figures; calculate areas of other polygons; use theorem to solve problems; calculate areas of ellipses and other conic sections; and calculate volumes of spheres, pyramids and cones.

Measurement

Ability to measure distances, weights, liquid volumes, temperatures, angles, etc.; use SI measurement units: metre, gram, etc.; use Imperial measurement units: foot, pound etc.; convert measurement units.

Algebra - Basic Skills

Ability to construct and solve equations and use common formulas.

Trigonometry - Basic Skills

Ability to identify and calculate known and unknown angles, use trigonometry to set up and solve problems using trigonometry.