

Core Competency Requirements

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If you're applying for a new residential builder licence as a general contractor in B.C., you must show proficiency in seven core competency areas.

These competencies are outlined in Schedule 6 of the Homeowner Protection Act Regulation.

This document summarizes the learning outcomes related to the core competency requirements. Learning outcomes state what a builder is expected to know, understand and/or be able to show by the end of a training course.

Relevant Enactments

a) Describe the role of the BC Building Code (the “Building Code”):

- › Describe how the Building Code is developed (objective-based) and what it accomplishes
- › Identify who enforces it and the general permit process
- › Understand how the Building Code relates to other codes, such as electrical regulations, the British Columbia Fire Code and others

b) Describe what the Building Code governs and identify the location of all key aspects of Division B, Part 9, relating to residential construction:

- › Identify soil-bearing capacity and problematic soil conditions:
 - Geotechnical investigation
 - Footing sizes
 - Building on filled ground
 - Radon areas and mitigation strategies
- › Demonstrate an understanding of seismic and climatic zones in B.C. and the related impacts on residential construction, such as lateral bracing, anchoring and rainscreening
- › Identify structural materials and methods of assembly:
 - Foundations
 - Superstructure
 - Roof structure
- › Identify building envelope and methods for keeping the weather out, and resolve simple issues, such as:
 - Foundation drainage
 - Insulation and air/vapour barriers
 - Windows and doors
 - Flashing and cladding types/systems
 - Flashing and roofing types

- › Identify sound transmission into residential units, and solve simple problems:
 - No requirements for impact noise, but consider mitigating
 - Consider increasing sound transmission class (STC) for assemblies, as lab tests can't be replicated on-site
 - Plumbing and mechanical noise
- › Identify heating and ventilation systems controlling indoor air quality:
 - Design temperatures
 - Air conditioning not required
 - Ventilation equipment, sizing and ducting
- › Identify installation of interior finishes, such as flooring, cabinetry and trim work
- › Demonstrate an understanding of limiting distance and special separation
- › Understand the requirements for the inclusion of secondary suites and multiple occupancies

c) Demonstrate understanding of the British Columbia Fire Code and its application to residential construction.

d) Demonstrate understanding of the Public Health Act and regulations with regards to the design and operation of septic systems.

e) Demonstrate understanding of how local bylaws may affect residential construction and where to locate the bylaws.

f) Understand application of the Building Code and other relevant provincial enactments in areas with no local bylaws.

Construction Management and Supervision

a) Describe and use project planning:

- › Understand tendering
 - Bid requirements and practices
 - Trade selection
- › Know how to prepare and use scheduling:
 - Value of scheduling
 - Scheduling guidelines
 - Critical scheduling stages
 - Time management

b) Organize and implement project supervision:

- › Know how to organize material and labour acquisition:
 - Purchasing order system and guidelines
 - Substitutions
 - Timing
 - Storage and care

- › Understand responsibility for pre-construction activities:
 - Site logistics
 - Site servicing
 - Mitigating environmental impacts
 - Contingency plans (for example, bad weather)
- › Understand contract compliance and plan checks
- › Understand different types of inspections and be able to apply inspection guidelines (for example, for building officials or engineers)
- › Understand key elements of quality control, including performance benchmarks and associated requirements
- › Describe both internal and external reporting requirements
- › Describe how to set up and monitor cost control (for example, a comparison of costs with budget)
- › Describe how to use a change/work order system

c) Identify and implement project site work safety:

- › Identify and implement guidelines on safe site conditions
- › Identify and implement guidelines from the Occupational Health and Safety (OHS) Regulation
- › Identify and implement guidelines from the Workplace Hazardous Materials Information System regulations
- › Identify and implement guidelines from WorkSafeBC standards, including a site-specific safety plan, company safety plan and insurance requirements

Construction Technology

a) Explain the “house-as-a-system” concept.

b) Understand building science that affects building durability and occupant comfort, including the following:

- › Explain how to control heat flow through heat flow mechanisms, such as conduction, convection and radiation
- › Explain how to control moisture flow through moisture movement mechanisms, such as bulk moisture movement, capillary action, airborne moisture and vapour diffusion

c) Categorize indoor air quality through contributors and detractors, such as pollutants, moisture or mould, and material selection.

d) Interpret sustainable development through energy efficiency, resource efficiency and environmental responsibility.

e) Understand building envelope details and be able to:

- › Classify air barriers (materials and details)
- › Classify vapour barriers (materials and details)
- › Distinguish foundation design: types of foundations, heat loss control, and moisture control

- › Distinguish floor designs: details for heat-flow control, moisture management, details at critical locations and vibration telegraphing sub-floors
- › Distinguish wall design: heat loss and moisture control, and alternate details
- › Distinguish roof construction and attics: air leakage into attics, details at critical locations, heat loss control, and details to deal with specific problems, such as truss uplift and ice damming
- › Distinguish windows and doors installations: guidelines to control heat loss and gains and moisture
- › Distinguish off-site panelized wall and floor systems

f) Understand mechanical systems:

- › Distinguish heating, cooling and ventilation principles
- › Distinguish heating systems
- › Distinguish heat distribution systems
- › Distinguish ventilation systems: benchmarks, alternate systems, heat recovery ventilation and energy recovery ventilation, and design and installation considerations

g) Distinguish integrated mechanical systems.

h) Determine engineered building components (for example, the correct use of products such as trusses, insulated concrete forms and load-bearing steel studs).

i) Identify how geographical and geological features can affect residential construction and explain how to mitigate risk due to these features.

Customer Service and Home Warranty Insurance

a) Explain what customer service is:

- › Describe the five factors of service excellence: reliability, assurances, tangibles, empathy, and responsiveness
- › Demonstrate understanding of customer values, behaviours and expectations

b) Understand the framework for customer service:

- › Explain how to establish expectations and why it is important for good customer service
- › Understand the steps in transferring a home to the customer
- › Describe the elements of a walk-through inspection and its relationship to customer service and home warranty
- › Explain the importance of customer orientation, including key components of an effective maintenance manual
- › Explain how to plan for warranty service work, including time management, budget contingency and subcontracts

c) Identify common situations, difficulties and methods for resolving conflicts:

- › Identify the common causes of disputes and customer dissatisfaction
- › Explain techniques for resolving disputes. Identify and briefly describe the key processes for resolving disputes (mediation, arbitration, civil suit, appeal)

d) Construct and use a quality customer-service action plan:

- › Represent attributes of an effective customer service strategy
- › Identify procedures for identifying customer service problems and solutions

e) Explain the roles of the homeowner, builder and home warranty insurance provider in identifying and responding to possible construction defects for the homeowner and future homeowners.

Financial Planning and Budget Management

a) Describe financial planning:

- › Integrate financial planning into the main elements of a business plan
- › Construct financial projections
- › Compute a pro-forma statement of operations (budget) that includes sales, costs, gross income, net income, etc
- › Compute pricing that includes alternate methods and factors to consider
- › Compute a break-even analysis: explanation
- › Discuss overhead costs
- › Apply a margin/mark-up, including an explanation and guidelines
- › Prepare a pro-forma statement of financial position that includes an explanation and elements
- › Calculate a pro-forma cash-flow statement

b) Financial management:

- › Explain financial management practices, including records requirements and operating guidelines, such as timely reporting and communication guidelines
- › Explain accounting concepts, principles and practices:
 - Accounting cycle
 - Alternate accounting benchmarks
 - Accrual accounting
 - Accounts receivable
 - Accounts payable
- › Explain bookkeeping and its concepts and practices, including journal entries, double-entry, preparation of ledgers and trial balance
- › Describe financial statements:
 - Statement of operations: explanation, elements (sales, fixed and/or variable costs, gross income, net income)
 - Statement of financial position: explanation; elements (assets, liabilities, shareholders' equity)
 - Cash flow statement: timing of costs and income, guidelines
 - Analysis of variances (between forecasts and actual results)
- › Describe financial performance measures: financial ratios, benchmarking
- › Give examples of financing, such as types of construction financing
- › Describe lender policies and working with lenders

- › Describe credit arrangements
- › Describe loan and collateral security requirements and arrangements
- › Apply cost control, both general and specific, such as overhead, construction, sales and administration costs
- › Define a purchase order system
- › Construct a system to control or account for extras and changes

Legal Issues

- Summarize legal requirements of contracts, including necessary elements, requirements and conditions of contracts, basis for and patterns of payment, breach of contract and remedies for breach of contract.**
- Demonstrate how to construct basic contracts with sub-contractors, suppliers, insurers and lenders. Describe subcontractor and supplier responsibilities. Describe requirements of insurers and lenders.**
- Describe types of contracts, including types of building contracts, contracts with subcontractors, contracts with lending institutions, contracts with homeowners and contracts with realtors.**
- Distinguish between an Agreement of Purchase and Sale, and a contracted home.**
- Describe the land registry system and related topics including land transfer, closing procedures, conditions and easements.**
- Summarize builder liability, including liability under contract, liability for negligence, tort law, environmental liability, WorkSafeBC/Occupational Health and Safety liability, statute of limitations, liability and responsibilities under the Homeowner Protection Act.**
- Explain the Builders Lien Act, including purpose, lien claimants, filing procedures, amounts, holdbacks and enforcement of liens.**
- Describe dispute resolution mechanisms including: information on mediation and arbitration, and the Homeowner Protection Act Regulation mediation provisions.**
- Describe how provincial legislation and local bylaws may affect residential construction:**
 - › Zoning and easements
 - › Development permits
 - › Building permits
 - › Inspection requirements
 - › Occupancy permits
- Describe how regulatory requirements or prohibitions with respect to health, the environment, riparian areas and energy performance may affect residential construction.**

Business Planning, Management, and Administration

a) Business vision, objectives and goals:

- › Describe statement of vision, objectives and goals
- › Explain statement of company rationale, values, directions and risks
- › Explain statement of ethics
- › Explain products and services

b) Integration with financial plan:

- › Understand the purpose of financial plans as they relate to business planning

c) Marketing plan:

- › Explain the following terms: market research, marketing, marketing planning
- › Describe elements of marketing planning: market environment, target market, positioning, pricing, strategy, sales strategy (public relations plan, advertising plan, and referrals plan)

d) Operating plan:

- › Describe different business forms (such as sole proprietorships, partnerships, corporations, limited partnerships and partnerships of corporations) and some pros and cons of each model
- › Explain why and when a new or updated plan should be developed
- › Managing change: give examples of when changes to one part of the business plan affect other parts
- › Explain the importance of communications to business success and construct guidelines for effective communication