



Red Seal Exam Preparation Course- Refrigeration and Air Conditioning Mechanic

Brief Program Description

This program helps to prepare the candidates seeking to challenge the Skilled Trades BC certification exam in Refrigeration and Air Conditioning Mechanic. This program focuses on the technical knowledge, practical assessments, and exam preparation aligned to industry standards.

Skilled Trades BC reference: Students must follow Skilled Trades BC requirements for challenge applications, employer declarations, and exam scheduling. See Skilled Trades BC at www.skilledtradesbc.ca
All related information is provided in appendix 1.

Career Occupation* (if applicable)

- Skilled Trades in the following occupations
- Refrigeration and Air Conditioning Mechanic

Admission Requirements*

Admission to this program requires applicants to demonstrate that they meet the eligibility requirements set by Skilled Trades BC to write the Red Seal Challenge Exam. Proof of required education, work experience, and/or training hours must be submitted at the time of application. Detailed requirements are as follows-

- Proof of completed application process with skilled trades BC for the specific red seal trades
OR
- Minimum age of 19 years old
- High School Diploma or Certificate of Completion
- Minimum 9315 hours of work-based training
- In-house language assessments will not be accepted; applicants must provide results from an approved standardized language assessment. Evidence of Language Proficiency Requirements (evidence of one of the following):
 - Evidence that 3 years of full-time secondary education (Grades 8-12) have been successfully completed in the English language in a country where English is one of the principal languages. This may include successful completion of a BC Adult Graduation program. Applicants must produce transcripts as evidence of completion of grade 12 English with minimum of a “C” grade
OR
 - Completion of 2 years of full-time post-secondary education at an accredited institution where English is the language of instruction. (Applicable to a country



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where English is one of the principal languages.)

OR

- Provide verified results for one of the English language proficiency tests listed below (Applicable to a country where English is not one of the principal languages) Test results must be dated no more than two years before the start date of the program.
- ❖ International English Language Testing System (IELTS) Academic: overall score of 5.5 or higher.
- ❖ Canadian Academic English Language (CAEL) Test: overall score of 40 or higher
- ❖ Duolingo English Test: overall score of 95 or higher
- ❖ Test of English as a Foreign Language (TOEFL) IBT: overall score of 46 higher
- ❖ Canadian English Language Proficiency Index Program (CELP/IP): Listening 6, Speaking 6, Reading 5, and Writing 5.
- ❖ Pearson Test of English (PTE) Academic: overall score of 43 or higher
- ❖ International Test of English Proficiency (iTEP): overall score of 3.5 or higher.

For additional requirements refer Appendix-2

Learning Objectives*

Graduates of this program will receive a “Certificate of Completion” from HCCBC. This is not a SkilledTradesBC Certification of Qualification or Red Seal Endorsement. Eligibility to challenge the SkilledTradesBC Certification of Qualification exam is determined solely by SkilledTradesBC and requires applicants to meet their documented requirements, including proof of work experience, scope of experience, and employer verification. The student will have reliably demonstrated the ability to:

- Understand the structure and requirements of the Red Seal exam for HVAC/R technicians.
- Recognize and understand key concepts, trade-specific knowledge, and skills required for the exam.
- Master HVAC/R system installation, maintenance, and troubleshooting techniques.
- Confidently apply safety protocols, building codes, and environmental standards.



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- Develop a mastery of implementing exam strategies, including time management and handling multiple-choice questions.
- Enhance their understanding of refrigeration cycles, heating methods, and ventilation principles.
- An ability to understand the National Occupational Analysis (NOA) for their specific trade
- Gain greater confidence in exam taking skills
- Develop ways to manage their time.
- Understand their skill level in their Trade and how it measure up to employer expectations

Method(s) of Evaluation*

Participation / Attendance – 10%
Quizzes – 30%
Project Assignments – 20%
Practice Exams & Final Exam – 40%

Completion Requirements*

Students must achieve a minimum grade of 60% in the class in order meet the graduation requirement for the program.

Program Duration

Course consists of 350 instructional hours over a period of-
Full time- 17.5 Weeks
Part time- 35 weeks

Homework Hours

Home work hours are set at an estimate of between 50 – 75 hours over a 17.5 week period.

Delivery Method(s)

Indicate how the program is delivered

- In-class instruction:** 100% hours of instruction delivered in a classroom or other setting, where instructors share the same physical space as students.
- Distance education:** 100% hours of instruction, excluding work experience hours, if applicable, delivered remotely from a BC location.
- Combined delivery:** (both in-class and distance): Instruction provided through a combination of in-class and distance delivery. Program may include a work experience component (in-person).
 - **42.8%** of combined program will be provided by distance (online) delivery.



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If distance or combined delivery is indicated, the online components are:

- Synchronous**, meaning students attend classes virtually in ‘real time’ with instructors and classmates.
- Asynchronous**, meaning students and instructors do not meet in ‘real time’. There is no live video lecture portion of the program. Students in a program or course that is delivered asynchronously may move through assignments at their own pace, supported by online resources such as recorded lectures, reading material, assignments and discussion groups.
- Combination of both **synchronous and asynchronous**.
 - Program delivery is [xx]% synchronous and [xx]% asynchronous.

Required course materials

The following textbook List is required for this program:

- *Modern Refrigeration and Air Conditioning (Althouse, Turnquist, Bracciano – latest edition)*
- *Refrigeration and Air Conditioning Technology (Whitman & Johnson)*
- *ASHRAE Fundamentals Handbook (selected chapters)*
- *Manufacturer technical manuals (equipment-specific)*
- *SkilledTradesBC Red Seal Exam Preparation Guide – HVAC*
- *WorkSafeBC-Occupational Health and Safety Regulation and related materials*

Program Organization*

	Course Title/Work Experience Component* (in order of delivery)	# of Hours of Instruction*	Delivery Method (In-class, Distance, or Combined)	Delivery Description for Distance and Combined Delivery Courses (Synchronous, Asynchronous, or Combination)	Breakdown for Combined Delivery Courses Summary of in-class vs. online attendance [xx% online and xx% in-class]
1.	Canadian Trade Safety Awareness	20	Distance/Combined	100% Synchronous	100% Online
2.	Canadian Essential Skills and NOC Classification system review	20	Distance/Combined	100% Synchronous	100% Online
3.	Review of sketches and drawings, Tools and Canadian Codes	60	Distance/Combined	100% Synchronous	100% Online



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4.	Selection and Identification of key Block areas for study	20	Distance/Combined	100% Synchronous	100% Online
5.	Review and study of Key Block areas Instruction for the exam	30	Distance/Combined	100% Synchronous	100% Online
6.	Specific Trade exam review	200	Distance/Combined	100% Synchronous	100% Online/In class



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APPENDIX -1

1. Challenge certification application — disclosure and fee:
Students who intend to challenge a Skilled Trades BC certification or Red Seal exam must apply to Skilled Trades BC directly and pay any applicable Skilled Trades BC fees.
2. Skilled Trades BC requires a Challenge Application fee (currently \$120). [Skilled Trades BC](#). This program does not submit challenge applications on behalf of applicants
3. Applicants must follow Skilled Trades BC's instructions for application, submit required employer declarations, and arrange any exam scheduling and payment directly with Skilled Trades BC. Students are advised to retain proof of payment and any Skilled Trades BC correspondence/approval
4. Skilled Trades BC's Assessments team reviews applications and verifies employer references and the applicant's hands-on work experience (employer declarations are required; managerial/administrative time does not count). [SkilledTradesBC](#)
5. SkilledTradesBC reviews/approves challenge applications and schedules approved applicants to write the certification exam. Final eligibility to challenge the exam is determined by SkilledTradesBC. [SkilledTradesBC](#)
6. Experienced worker/challenge application processing time is typically indicated as about 6–8 weeks (longer when international experience is involved). [SkilledTradesBC](#)
7. SkilledTradesBC publishes exam scheduling / exam application forms (applicants submit application forms through the Portal or to Customer Service). A detailed process is attached in the link - <https://skilledtradesbc.ca/challenge-certification-exam>



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APPENDIX -2

1. Employer verification and scope of experience:

Skilled Trades BC requires employer references and declarations that confirm both the amount (hours) and the scope (types of tasks) of hands-on trade experience. Time spent performing managerial, administrative, supervisory, volunteer, instructional, or classroom training does not count as hands-on trade experience for challenge purposes. Applicants must provide employer contact information and signed employer declarations in the format required by Skilled Trades BC; the institution will keep copies on file. Applicants should be aware that Skilled Trades BC will independently verify employer declarations as part of their assessment.

2. The institution will maintain a verified admissions file for every student admitted to this exam-preparation program. The file will include:

- (a) copies of certified trade education/credential documents
- (b) employer declaration(s) of hands-on work experience (signed)
- (c) Skilled Trades BC application acknowledgement or approval where applicable
- (d) proof of payment of any Skilled Trades BC fees where the institution acts as a payment intermediary
- (e) a record of any direct verification contact with employers. Files will be retained for a minimum of 3 years and will be made available for audit by regulators on request