

YOUR TRADE CERTIFICATION GUIDEBOOK

HEAVY DUTY EQUIPMENT TECHNICAN

AS OF SEPT 2017

ita
YOUR TICKET.

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YOUR TRADES TRAINING

It's an exciting time to be in the skilled trades industry! BC is growing and so is the demand for skilled tradespeople in the province. Almost one million jobs are expected to be created by 2025 in BC, many of them being in the construction industry.

With the increasing number of retirees in the trades community, there is a need for more driven individuals like you to pursue careers in trades. From the building you're sitting in right now to the cars you drove to get there, there are a number of tradespeople that were involved in the design, creation, and maintenance of them.

Congratulations on starting your journey to certification. You are on your way to becoming a key contributor to BC's trade industry and your community.

ABOUT INDUSTRY TRAINING AUTHORITY:

The Industry Training Authority (ITA) leads and coordinates British Columbia's skilled trades system. ITA works with employers, employees, industry, labour, training providers, and government to issue credentials, manage apprenticeships, set program standards, and increase opportunities in the trades.

APPRENTICESHIP RESPONSIBILITIES

Work-Based Hours (WBT) – Reporting your work-based training hours is essential to completing your Apprenticeship. It is your responsibility to confirm with your Sponsor/Employer that your hours have been reported to ITA and applied to your Apprenticeship record.

If your previous Employer has not submitted work based hours for you, the WBT form allows your current Sponsor/Employer to sign off those hours.

You can find a copy of the **work-based training form** here:

www.itabc.ca/apply-apprenticeship/forms

Sponsor/Employer – If you have changed your employer it is important to update your Apprenticeship records with this information. Sponsors have the responsibility to sign off work hours and Recommendation for Certification for completion.

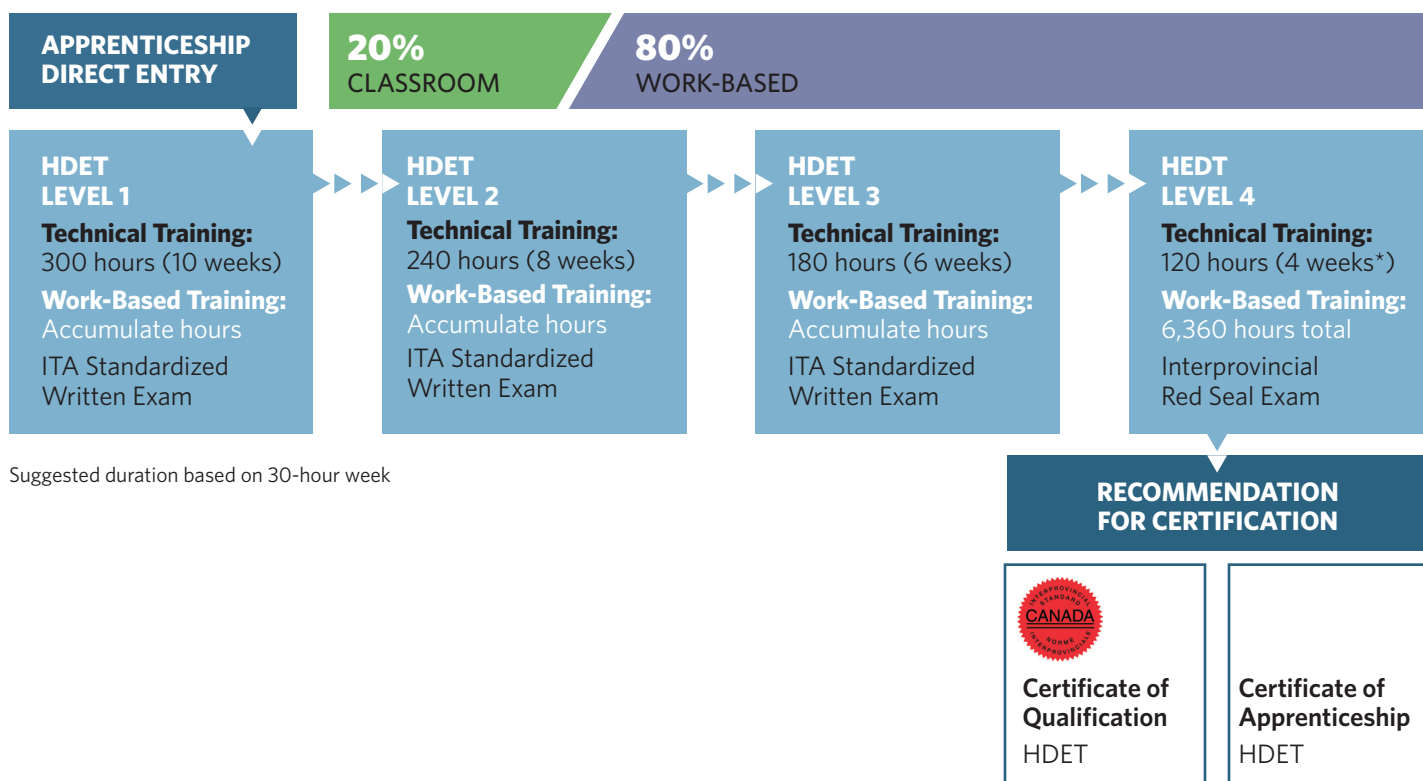
Contact Information – It is your responsibility to ensure your contact information is up to date (address, phone, name changes, etc.) This can be done by logging into Direct Access or phoning Customer Service.

Direct Access – By logging into Direct Access you can view your Apprenticeship records (transcripts, exam marks, etc). www.itabc.ca/apply-apprenticeship/direct-access

Technical Training Registration – Speak with your employer about when will be a good time for you to go back to school for your next level of technical training. Once you and your employer have agreed on a time, it is your responsibility to register for technical training. A list of Designated Training Providers can be found here, www.tradetrainingbc.ca.

It is recommended to have the conversation with your employer and register for technical training ahead of time, as classrooms have limited space.

APPRENTICESHIP PATHWAY - MAPPING YOUR WAY TO CERTIFICATION



GAINING COMPETENCIES

Below are skills and knowledge you will gain from technical and hands on training.

Program competencies can change. Check Program Outline, link below, for accuracy.

www.itabc.ca/sites/default/files/program-information/heavy-duty-equipment-technician-program-outline-sept-2018.pdf

✓ **HEAVY DUTY EQUIPMENT TECHNICIAN LEVEL 1**

Occupational Skills

- Use Safe Work Practices
- Use Hand Tools, Power Tools and Shop Equipment
- Use Fasteners and Fittings
- Lift and Support Loads
- Operate Equipment
- Use Shop Resources and Record Keeping Practices
- Service Winch Wire Rope
- Identify Lubricants
- Service Bearings and Seals
- Use Electronic Media
- Use Cutting and Welding Equipment
- Describe Diagnostic Procedures

Brakes

- Service and Repair Hydraulic Brakes
- Service and Repair Hydraulic Power Brakes
- Service and Repair Air Brakes

Hydraulics

- Describe Hydraulic Systems
- Service Hydraulic Components

Electrical

- Describe Electricity
- Use Electrical Testing Instruments
- Service and Diagnose Batteries
- Service Charging Systems
- Service Starting Systems
- Service Electrical Circuits

Frames, Steering and Suspension

- Service and Diagnose Tires, Wheels and Hubs
- Service Steering Systems
- Service, Diagnose and Repair Suspension Systems
- Diagnose and Repair Frames

Trailer

- Service Landing Gear and Trailer Accessories
- Service and Repair Coupling Systems
- Service, Diagnose and Repair Trailer Body Components
- Service, Diagnose and Repair Heating and Refrigeration Systems

Heating, Ventilation and Air Conditioning

- Describe Heating and Air Conditioning Fundamentals
- Diagnose and Repair Heating and Air Conditioning Systems

Structural Component and Accessories

- Identify Protective Structures
- Service Cab Structures

✓ **HEAVY DUTY EQUIPMENT TECHNICIAN LEVEL 2**

Electrical

- Diagnose and Repair Charging Systems
- Diagnose and Repair Starting Systems
- Diagnose and Repair Electrical Components and Systems
- Diagnose and Repair Electronic Components and Systems
- Diagnose and Repair Vehicle Management Systems

Engines and Supporting Systems

- Describe Engine Fundamentals
- Diagnose and Repair Engine Support Systems
- Diagnose and Repair Diesel Supply Systems
- Describe Alternative Fuel Systems
- Diagnose Engines and Components
- Remove Engines and Components
- Describe Diesel Fuel Injection Fundamentals
- Diagnose and Repair Mechanical Fuel Injection Systems
- Diagnose and Repair Electronic Diesel Fuel Systems
- Diagnose and Repair Diesel Emissions Systems
- Diagnose and Repair Engine Brakes

✓ HEAVY DUTY EQUIPMENT TECHNICIAN LEVEL 3

Powertrains

- Describe Power Transfer Systems
- Diagnose and Repair Clutches
- Diagnose and Repair Manual Transmissions
- Diagnose and Repair Automated Systems
- Diagnose and Repair Automatic Transmissions and Torque Converters
- Diagnose and Repair Power Shift Transmissions
- Diagnose and Repair Drivelines
- Diagnose and Repair Drive Axles
- Diagnose and Repair Final Drives
- Diagnose and Repair Driveline Retarders
- Diagnose and Repair Winches
- Diagnose and Repair Power Take-offs and Transfer Cases

✓ HEAVY DUTY EQUIPMENT TECHNICIAN LEVEL 4

Hydraulics

- Diagnose and Repair Advanced Hydraulic Systems

Electrical

- Service, Diagnose and Repair Electric Drive Systems

Frames, Steering and Suspension

- Diagnose and Repair Wheeled Equipment Steering
- Diagnose and Repair Track Machine Steering
- Diagnose and Repair Undercarriage

Structural Components and Accessories

- Diagnose and Repair Working Attachments
- Diagnose and Repair Pneumatic Systems

STANDARD LEVEL EXAMS

Standard Level Exams (SLEs) are usually written on the last day of in-school training and will count for 20% of your overall mark.

Below is a list for general areas of competencies covered in SLEs for each level.

The list of competencies covered in the SLEs can change. Check the **Exam Weighting Charts** for accuracy at:

www.itabc.ca/program/heavy-duty-equipment-technician-0

LEVEL 1	LEVEL 2	LEVEL 3
A. Occupational Skills B. Brakes C. Hydraulics D. Electrical E. Frames, Steering and Suspension F. Trailer G. Heating, Ventilation and Air Conditioning H. Structural Components and Accessories	D. Electrical H. Engines and Supporting Systems	I. Powertrains

REMINDERS

- You must bring a piece of Government PHOTO identification. The ID must be VALID and CURRENT. Expired IDs and IDs with no expiry date will not be accepted.
- Your Training Provider will inform you of the time and location of the exam. Arrive early.

RED SEAL INTER-PROVINCIAL EXAM

The Red Seal Inter-Provincial Exam covers a whole range of competencies from all your levels of technical training.

The table below is a general breakdown of areas of competencies covered in the Red Seal IP exam.

The areas of competencies covered in the Red Seal IP exam can change. Check **Occupational Standard for current exams** at www.red-seal.ca/trades/hd.2t-eng.html for accuracy.

BLOCK A Common Occupational Skills	Task 1	Uses and Maintains Tools and Equipment
	Task 2	Performs General Maintenance and Inspections
	Task 3	Organizes Work
	Task 4	Performs Routine Trade Activities
BLOCK B Engine and Engine Support Systems	Task 5	Diagnoses Engines and Engine Support Systems
	Task 6	Repairs Engine and Engine Support Systems
BLOCK C Hydraulic, Hydrostatic and Pneumatic Systems	Task 7	Diagnoses Hydraulic, Hydrostatic and Pneumatic Systems
	Task 8	Repairs Hydraulic, Hydrostatic and Pneumatic Systems
BLOCK D Drivetrain Systems	Task 9	Diagnoses Drivetrain Systems
	Task 10	Repairs Drivetrain Systems
BLOCK E Steering, Suspension, Brake Systems, Wheel Assemblies and Undercarriage	Task 11	Diagnoses Steering, Suspension, Brake Systems, Wheel Assemblies and Undercarriage
	Task 12	Repairs Steering, Suspension, Brake Systems, Wheel Assemblies and Undercarriage
BLOCK F Electrical and Vehicle Management Systems	Task 13	Diagnoses Electrical Systems
	Task 14	Repairs Electrical Systems
	Task 15	Diagnoses Electronic Vehicle Management Systems
	Task 16	Repairs Electronic Vehicle Management Systems
BLOCK G Environmental Control Systems	Task 17	Diagnoses Environmental Control Systems
	Task 18	Repairs Environmental Control Systems
BLOCK H Structural Components, Accessories and Attachments	Task 19	Diagnoses Structural Components, Accessories and Attachments
	Task 20	Repairs Structural Components, Accessories and Attachments

Note: Based on the Heavy Duty Equipment Technician National Occupational Analysis (NOA).

A copy of the Heavy Duty Equipment Technician NOA is available at

www.red-seal.ca/docms/hdet_noa2014_eng.pdf

FINAL PIECE FOR YOUR RED SEAL INTER-PROVINCIAL CERTIFICATION

Once you passed your red seal exam these are the next steps:

1. Ensure your work-based training hours have been submitted and reached achieved status. Check your status in Direct Access.
2. The Recommendation for Certification (RFC) will be automatically emailed to your Sponsor/Employer. Once received, both the Sponsor and Journeyperson will sign the form and submit to ITA for processing.
3. ITA will verify and process the RFC, the Certificates will then be printed for mailing.
 - Certificates are mailed to your Sponsor.
 - If your Sponsor had indicated on the RFC form to send Certificates to the Apprentice, they will be mailed to the address noted on your Apprenticeship record in Direct Access.



ITA Customer Service
800 8100 Granville Avenue,
Richmond, BC V6Y 3T6
Tel 778-328-8700
Toll Free: 1-866-660-6011
Fax 778-328-8701
customerservice@itabc.ca

RECOMMENDATION FOR CERTIFICATION FORM

This form is to recommend for certification an apprentice who has completed the requirements of a program. Please complete section A and return the completed signed form to us at customerservice@itabc.ca. Missing information may delay the process.

Sponsor Information:

Organization: ABC123 Electrical LTD. Org ID: 123456
Primary Contact: Pat Jones
Address: 4321 ABEC Street Vancouver, V3B2G2 Email Address: patjones@abccemail.com

Apprentice Information:

Full Legal Name: Jessie Lee ITA ID# 654321
Program: Residential Electrician Email Address: leejessie@123email.com

Section A: Recommendation for Certification By Sponsor (and Certified Journeyperson or individual with Supervision and Sign-off Authority)

RELEASE OF CERTIFICATES sent to the sponsor directly unless indicated otherwise. Apprentice check address in DA.
☐ Send to Sponsor ☐ Send to Apprentice

SPONSOR

I/We hereby confirm that the trainee/apprentice named above is working at the skill and competency level of a certified journeyperson and recommend certification.

Bob Smith
(Signed) Name

Jan 1, 2016
Date Signed

Please note: The Certified Journeyperson or the individual with Supervision and Sign-off Authority (who supervised this apprentice) must always sign this form. The Certified Journeyperson or the individual with Supervisor and Sign-off Authority must provide all the details requested in the box to the right and must be certified at the same level or higher than the apprentice or in another approved trade that is recognized by ITA as having similar competencies.

CERTIFICATION NOT RECOMMENDED BY SPONSOR:

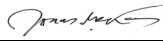
I/We hereby confirm that the apprentice named above is NOT recommended for certification at this time. Please fill out an **RFC Form B** to complete this recommendation.


Sponsor Signature Date

JOURNEYPEPERSON

Print Full Name of the Certified Journeyperson or individual with Supervision and Sign-Off Authority who has supervised this apprentice and is recommending him/her certification (may be same as Sponsor, or a different individual)

Jason Jones
Name


Signature

Jan 1, 2016
Date Signed

Residential Electrician

Trade Name Province Issued

Certificate Number (below):

12345AB01

☐ Certificate of Qualification ☐ ITA Sign-off Authority
☐ Interprovincial (Red Seal)

If the Journeyperson's credential was awarded outside of BC attach a copy of the certificate or wallet card.

FREQUENTLY ASKED QUESTIONS

HOW DOES MY SPONSOR/EMPLOYER SUBMIT HOURS?

The sponsor/employer will submit Work Based Training Hours via Direct Access, email, mail, or fax.

WHAT IF I WORKED FOR A SPONSOR/EMPLOYER AND THEY DID NOT SUBMIT MY HOURS?

You can talk to your current sponsor to see if they are willing to submit the hours for the work you did previously on a work based training report.

DOES MY SPONSOR/EMPLOYER HAVE TO LET ME GO TO SCHOOL?

You need to discuss your plans for school with your sponsor/employer to see if they are able to release you to go to school. Let them know of upcoming training locations and dates.

HOW DO I KNOW WHAT MY GRADES ARE FOR SCHOOL?

The Trades Training school will submit your marks to ITA. You and your sponsor/employer will receive a notice by email.

WHERE DO I GET MY PROGRESSION LETTER?

Upon completion of your technical training and required work-based hours for Level 1 and 2, ITA will send you the Progression Letter by email. Required number of work place hours by level can be found at

www.itabc.ca/grants-tax-credits/grants

You will need this Progression Letter to apply for your Apprenticeship Incentive Grant.

www.servicecanada.gc.ca/eng/goc/apprenticeship/incentivegrant/program.shtml

WHEN I FINISH ALL MY TRAINING AND REQUIRED HOURS, AM I CERTIFIED?

No, first ITA will email the Employer Recommendation for Certification document to your sponsor after you have passed the Red Seal Inter-Provincial Exam. This must be signed by a certified tradesperson (your trade) and returned to ITA. ITA will send your Certificate of Apprenticeship, Certificate of Completion and Interprovincial Red Seal Endorsement certificates to your sponsor/employer.

ARE THERE ANY GRANTS FOR FINISHING MY CERTIFICATION?

Yes. You can apply for the Apprenticeship Completion Grant once you receive your Red Seal Inter-Provincial Endorsement Certificate. You will need a copy of your certificate to apply.

www.servicecanada.gc.ca/eng/goc/apprenticeship/completiongrant/application.shtml

ARE THERE ANY INCENTIVES FOR MY EMPLOYER?

Employers can apply for Tax Credits as their apprentice progresses through the trade. The tax information letter can be found on Direct Access.

FINANCIAL SUPPORT FOR APPRENTICES

As a registered apprentice, you can apply for financial support. You're also eligible to apply for Employment Insurance. Federal and provincial financial support information can be found in the two links below:

www.itabc.ca/grants-tax-credits/grants

www.esdc.gc.ca/en/reports/apprentices/support_brochure.page

Apprentice Supports*	Direct Entry Apprenticeship Hired and registered by Sponsor without prior Foundation/ apprentice training	Foundation Training (a.k.a: pre-apprentice)	Apprentice Technical Training (Levels 1, 2, 3, 4)
Skills Training Funding Tuition* See Notes A+C		✓	
Indigenous Skills Training Funding Tuition* (eligible Indigenous applicants) ISETS agencies See Notes A+C		✓	✓
Student Aid/Loans* Only Foundation Training over 12 weeks long BC ACCESS Grant (only for training in high demand trades) Bursaries and Scholarships		✓	
Canada Apprentice Loan			✓
Wage Subsidy (new hires)* WorkBC / ASETS agencies	✓		
EI and AOP: Apprentice Financial Benefits for Apprentice Training * (Apprentice Supports Online Portal) WorkBC and Service Canada (for EI-eligible clients) ²			✓
Training Tax Credits Non-Red Seal and Red Seal* Credit amount varies, please refer to CRA			✓
Incentive and Completion Grants, Red Seal Trades* Service Canada		✓	✓
ITA Website Resources* (www.itabc.ca) Direct Access Online Apprenticeship Reporting Trade Profile	✓	✓	✓

*Support is dependent on eligibility and varies by trade, level of training, and whether or not it is a Red Seal or Non-Red Seal trade.

Note A: WorkBC and EPBC. Indigenous resources: ISETS agencies, Victoria Foundation, Bands, bursaries, scholarships, STEP

Note B: Bursaries may be available through individual training institutions

Note C: ACE IT/SSA coordinated through School Districts

NOTES

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CONNECT WITH US!

www.itabc.ca



CONTACT EMAIL OR CALL

778.328.8700 or call TOLL FREE in BC: 1.866.660.6011

customerservice@itabc.ca

Our customer experience representatives are accessible, from 8:00 a.m. to 4:30 p.m. PT, Monday to Friday, and can provide you with quick and easy access to information regarding all of ITA's services. Call or email us today for information on training and apprenticeship, including registration, examinations and certification, or to answer any other questions you may have.



CONNECT LOCALLY

Looking for someone to help you in your community? ITA has regional Apprenticeship Advisors across the province to support local skilled trades apprentices and employers. Find the Apprenticeship Advisor closest to you—all you need is your postal code.

Do you want to learn more about how ITA works with industry? Feel free to contact any of our Industry Relations Team to better understand each industry's needs in BC and to learn more about how they are working to ensure we have the right skilled workers where they are needed.



VISIT CUSTOMER CENTRE

ITA's Customer Support Centre

8th Floor - 8100 Granville Avenue, Richmond, BC V6Y 3T6

We are happy to serve you in-person at our Richmond Customer Support Centre, and through our regional Apprenticeship Advisors, who are available to serve you in communities across the province.



SUBSCRIBE TO TRADES TALK

Keep up to date on ITA in action as well as other trades and industry news by subscribing to our quarterly newsletter, Trades Talk.



Industry Training Authority



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