

## Automotive Service Technician Apprenticeship Level 4 – ASTA4 Trades Training

### Program Outline

PROGRAM IMPLEMENTATION DATE:	Pre 1998
OUTLINE EFFECTIVE DATE:	January 2021
PROGRAM OUTLINE REVIEW DATE:	September 2026

#### GENERAL PROGRAM DESCRIPTION:

This 7-week program delivers the skills, knowledge and training required for Level 4 of the 4-level Automotive Service Technician Apprenticeship program. Program competencies covered include diagnosing and repairing diesel engines, driveline systems, electrical systems and components, heating, ventilation and air conditioning (HVAC) and comfort control systems, restraint systems, body components, accessories and trim and hybrid and electric vehicles (EV). This program includes classroom theory, demonstrations and practical hands-on training in a fully functioning automotive shop. Safe work habits are important in this trade and are emphasized, reinforced and practiced throughout the program.

**Credentials Granted:** Upon successful completion of the 7-week Level 4 Automotive Service Technician Apprenticeship program, students receive:

- Level 4 Technical Training credit of the Automotive Service Technician Apprenticeship program from the Industry Training Authority or
- Certificate of Qualification for Level 4

**Note:** The Automotive Service Technician Apprenticeship Progressive Credential Model enables apprentices to receive a Certificate of Qualification at each level (as well as a final Certificate of Qualification with an Interprovincial Red Seal endorsement).

*For further information on AST credentials, please refer to the ITA website [www.itabc.ca](http://www.itabc.ca).*

**Delivery:** This program is delivered face to face as a block intake.

**Time for this program:** 7 weeks

#### Typical Structure of Instructional Hours:

Instructional Activity	Duration
Theory based training (approximately per day)	70%
Practical shop floor training (approximately per day)	30%
Trades Contact Hours	28 hrs/wk

#### Practicum Hours (if applicable):

Type of Practicum	Duration
On-the-job Experience	N/A
Formal Work Experience	N/A
Other	N/A
<b>Total</b>	

**Program Outline Author or Contact:**

John White, Automotive RSE, PID

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Signature

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**APPROVAL SIGNATURES:**

Department Head

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Dean of Trades and Technology

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Department Head Signature

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Dean Signature

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Valid from: January 2021 – September 2026

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Education Council Approval Date

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**PROGRAM PREREQUISITES AND TRANSFER CREDIT:**

**Prerequisites:** Sponsored Automotive Service Technician that has successfully completed Level 3 Automotive Service Technician

**Flexible Assessment (FA):**

Credit can be awarded for this program through FA

Yes

No

**Prior Learning Credit:**

Apprentices that have extensive work experience in a trade (in BC or elsewhere) but have never been certified must apply through the Industry Training Authority (ITA) to challenge the certification for advanced placement in a program. Refer to the ITA website (<http://www.itabc.ca/apply-apprenticeship/challenging-exams>) for details regarding the challenge procedure. Trade specific requirements can be found for each trade in the Trades Program Profiles on the ITA website .

**Prior Course Number:** N/A

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## Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Program Outline Effective Date the following textbooks were in use (most current edition):

AST – Level 4: COTR Custom Package

Please see the instructor's syllabus or check COTR's online text calculator <http://go.cotr.bc.ca/tuition/tCalc.asp> for a complete list of the currently required textbooks.

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## PROGRAM DESIGN:

Apprenticeship programs cover the general area competencies (GAC) for the program as sourced from curriculum documents provided by Industry Training Authority (ITA). The Technical Training Topics are listed under the Technical Training Content section of this document, and related competencies are listed under the Program Competencies section. College of the Rockies is accredited by ITA to deliver apprenticeship programs

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## TECHNICAL TRAINING CONTENT:

- AMST 401      Use Communication and Mentoring Techniques**
- Use mentoring techniques
- AMST 402      Diagnose and Repair Diesel Engine Support Systems**
- Diagnose and repair diesel fuel delivery and injection systems
  - Diagnose and repair diesel intake and exhaust systems
  - Diagnose and repair diesel emission control systems
- AMST 403      Diagnose and Repair Driveline Systems**
- Diagnose and repair automatic transmissions and transaxles
  - Diagnose and repair all-wheel drive (AWD) systems
- AMST 404      Diagnose and Repair Electrical Systems and Components**
- Diagnose and repair instrumentations, entertainment systems and displays
- AMST 405      Diagnose and Repair Heating, Ventilation and Air Conditioning (HVAC) and Comfort Control Systems**
- Diagnose and repair air flow control and heating systems
  - Diagnose and repair refrigerant systems
- AMST 406      Diagnose and Repair Restraint Systems, Body Components, Accessories and Trim**
- Diagnose and repair restraint systems
- AMST 407      Diagnose and Repair Hybrid and Electric Vehicles (EV)**
- Diagnose and repair hybrid and electric vehicle (EV) systems
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## PROGRAM COMPETENCIES:

Upon successful completion of this program, students will be able to

- develop effective communication and interpersonal skills related to the workplace;
- diagnose and repair diesel engines;
- diagnose and repair driveline systems;
- diagnose and repair electrical systems and components;
- diagnose and Repair heating, Ventilation and Air Conditioning (HVAC) and Comfort Control Systems;
- diagnose and Repair Restraint Systems, Body Components, Accessories and Trim; and
- diagnose and Repair Hybrid and Electric Vehicles (EV).

*The program competencies covered in this program follow Industry Training Authority harmonized curriculum.*

*See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.*

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## EVALUATION AND ASSESSMENT:

Assignments	% Of Total Grade
Theory	70%
Practical	<u>30%</u>
Total	100%

**Note:** When the apprentice completes the program the instructor will forward the evaluation results to the Industry Training Authority.

Passing grade - Final mark of 70% overall

<b>AUTOMOTIVE SERVICE TECHNICIAN LEVEL 4</b>			
<b>COTR COURSE</b>	<b>SUBJECT COMPETENCIES</b>	<b>THEORY WEIGHTING</b>	<b>PRACTICAL WEIGHTING</b>
AMST 401	Use Communication and Mentoring Techniques	1%	0%
AMST 402	Diagnose and Repair Diesel Engine Support Systems	22%	20%
AMST 403	Diagnose and Repair Driveline Systems	25%	40%
AMST 404	Diagnose and Repair Electrical Systems and Components	10%	0%
AMST 405	Diagnose and Repair heating, Ventilation and Air Conditioning (HVAC) and Comfort Control Systems	22%	30%
AMST 406	Diagnose and Repair Restraint Systems, Body Components, Accessories and Trim	8%	0%
AMST 407	Diagnose and Repair Hybrid and Electric Vehicles (EV)	12%	10%
	<b>Total</b>	<b>100%</b>	<b>100%</b>
In-school theory & practical subject competency weighting		70%	30%
<b>Final in-school mark</b> Apprentices must achieve a minimum 70% for the final in-school mark to be eligible to write the Automotive Service Technician 4 Standardized Level exam		<b>IN-SCHOOL %</b>	

<b>In-school Mark</b> Combined theory and practical subject competency multiplied by	80%
<b>Standardized Level Exam Mark</b> The exam score is multiplied by	20%
<b>Final Level Mark</b> Apprentices must achieve a minimum 70% for the final in-school mark to be eligible to write the Automotive Service Technician Interprovincial Red Seal exam	<b>FINAL%</b>

## STUDENT RESPONSIBILITY:

Students are expected to follow all College Policies and Practices as outlined in the program handout package. Mastery of trade specific techniques and methods necessary to a given trade requires significant supervised practice. As a result, regular attendance is necessary for success in this program. Students are expected to follow Policy 2.6.2 – "**Vocational Student Withdrawals as a Result of Absence**".

WorkSafeBC regulations apply to all trades programs. Students are expected to follow all safe work practices and have high regard for the safety of others as well as of themselves. Students are responsible to wear personal protective equipment (PPE) as directed. At a minimum, students must provide and wear approved safety footwear and eyewear at all times in the shop. Additional PPE may be required for specific tasks. Students are expected to wear clothing suitable for working safely in the shop.

The shop attendant is also the first aid attendant for the building. Students may only work in the shop during assigned times. If an incident occurs, no matter how minor, it must be reported to the shop attendant immediately.

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## INDUSTRY SITE VISITS:

There may be off-site field trips organized in the program as opportunity or resources are available during this program. Students **ARE REQUIRED** to arrange their own transportation for such field trips. Students are expected to follow all college policies and procedures when participating in off-campus activities.

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## STUDENTS MUST PROVIDE THEIR OWN:

- Steel-toed Leather Work Boots
  - Safety Glasses
  - Coveralls
  - Gloves
  - Pens, pencils, three-ring binder
  - Calculator
  - Paper
  - Multimeter
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## EXAM POLICY:

Students must attend all required scheduled tests and exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled test or exam without approval will be given a grade of "0" for the exam.

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**PROGRAM GRADE:**

Program grades are assigned as follows:

<b>COM</b>	Completed to defined standard $\geq 70$
<b>NCG</b>	No Credit Granted $< 70$

Successful completion of the in-school training for each level is defined as a final score of 70% or greater. (ITA website)

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**ACADEMIC POLICIES:**

See [www.cotr.bc.ca/policies](http://www.cotr.bc.ca/policies) for general college policies related to course activities, including grade appeals, cheating and plagiarism.

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**PROGRAM CHANGES:**

Information contained in program outlines is correct at the time of publication. Content of the program is revised on an ongoing basis to ensure relevance to changing educational, employment, and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add material to programs.