



Automotive Service Technician Foundation Program – AST1

Trades Training

Program Outline

PROGRAM IMPLEMENTATION DATE: November 2006
OUTLINE EFFECTIVE DATE: September 2021
PROGRAM OUTLINE REVIEW DATE: March 2026

GENERAL PROGRAM DESCRIPTION:

This comprehensive 30-week Automotive Service Technician Foundation (pre-apprenticeship) program provides students with the skills, knowledge and training necessary to enter the automotive industry and covers the program competencies for Level 1 of the four level Automotive Service Technician Apprenticeship program. Emphasis is placed on the development of practical mechanical knowledge for preparation in the automotive industry. Content covered includes general automotive maintenance and practices, basic electrical systems, brake systems, steering systems and suspension systems, as well as using automotive tools and equipment. The program includes classroom theory, demonstrations, and practical hands-on training in a functioning automotive shop setting. Safe work habits are emphasized, reinforced and practiced throughout the program.

Credentials Granted: Upon successful completion of the 30-week Automotive Service Technician Foundation program, students receive:

- Level 1 Technical Training credit from the Industry Training Authority of the 4 Level Automotive Service Technician Apprenticeship program
- Certificate of Completion Automotive Service Technician from the Industry Training Authority
- College of the Rockies Certificate
- Credit for 450 Work-based Training hours from the Industry Training Authority

Delivery: This program can be delivered face to face or hybrid (online with face-to-face components).

Time for this program: 30 weeks

Structure of Instructional Hours:

Instructional Activity	Duration
Instructional Hours	28 hrs/wk
Directed Studies	2 hrs/wk
Hours per week	30 hrs/wk
Total Program Hours	900 hrs

Content Weighting	
Theory	40%
Practical Skills	60%
Total	100%

Program Outline Author or Contact:

John White, RSE Automotive Service Technician, PID

Signature

APPROVAL SIGNATURES:

Department Head
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Dean of Trades and Technology
Dr. Jack Moes
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Department Head Signature

Dean Signature

EDCO

Valid from: September 2021 – March 2026

Education Council Approval Date

ADMISSION REQUIREMENTS:

Prerequisites:

- Secondary school graduation or equivalent, or completion of a College of the Rockies assessment to an acceptable level.

Recommended prerequisites: The following education is **highly** recommended for student success within the program:

- Workplace MATH 10 and Apprenticeship MATH 12. Apprenticeship and Workplace Math 11, Trades Mathematics 11, or equivalent
- Either English 12, English Studies 12, English First Peoples 12, ENGL 090, or equivalent (refer to Course Equivalency information on the College Website)
- Physics 11 or Science and Technology 11

Flexible Assessment (FA):

Credit can be awarded for this program through FA Yes No

Learners may request formal recognition for flexible assessment at the College of the Rockies through one or more of the following processes: External Evaluation, Worksite Assessment, Demonstration, Standardized Test, Self-assessment, Interview, Products/Portfolio, Challenge Exam. Contact an Education Advisor for more information.

Prior Learning Credit: Student may apply for prior learning credit with the ITA (Industry Training Authority), please visit www.itabc.ca.

Prior Program Number: N/A

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)

Automotive Technology, Jack Erjavec, 4th Edition (2015); (incl. Text, Tech. Manual) – Delmar Nelson Canada
TRAC Common Core Guides Line B (Math)
H.D. Mechanics – Basic Welding Line G 1 – G11
Automotive Service Technician Competencies Line A1 – A10 (complete set)
Automotive Service Technician First Period Learning Guides (complete set)

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.

PROGRAM COMPETENCIES AND TECHNICAL TRAINING CONTENT:

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

AMST 101 Perform Safety-Related Functions

- Maintain safe work environment
- Use personal protective equipment (PPE) and safety equipment

AMST 102 Use Tools, Equipment and Documentation

- Use tools and equipment
- Use fasteners, tubing, hoses and fittings
- Use hoisting and lifting equipment
- Use technical information
- Demonstrate safe use of oxyacetylene and GMAW welding procedures

AMST 103 Use Communication and Mentoring Techniques

- Use communication techniques

AMST 104 Diagnose and Repair Driveline Systems

- Diagnose and repair drive shafts and axles

AMST 105 Diagnose and Repair Electrical Systems and Components

- Diagnose and repair basic wiring and electrical systems
- Diagnose and repair starting and charging systems and batteries

AMST 106 Diagnose and Repair Steering and Suspension, Braking, Control Systems, Tires, Wheels, Hubs and Wheel Bearings

- Diagnose and repair steering and control systems
- Diagnose and repair suspension and control systems
- Diagnose and repair braking and control systems
- Diagnose and repair tires, wheels, hubs and wheel bearings

AMST 107 Diagnose and Repair Restraint Systems, Body Components, Accessories and Trim

- Diagnose and repair wind noises, rattles and water leaks
- Diagnose and repair interior and exterior components, accessories and trim
- Diagnose and repair latches, locks and movable glass

AMST 108 Diagnose and Repair Hybrid and Electric Vehicles (EV)

- Implement specific safety protocols for hybrid and electric vehicles (EV)

AMST 109 Diagnose and Repair Engine Systems

- Test and service lubrication and cooling systems
- Describe internal combustion engine principles
- Assess leaks

The program competencies and technical training content delivered in this program follow the Industry Training Authority Program Outline for this trade.

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

WORKPLACE HEALTH AND SAFETY COURSES:

Students must pass the following Workplace Health and Safety courses for program completion:

- Workplace Hazardous Material Information System (*WHMIS: PVHE-700*)
- Occupational First Aid – Level 1 (*OFA-1: PVHE-100*) *

*Students must complete Occupational First Aid Level 1 within the program or have a current Occupational First Aid Level 1 certificate valid to the end of the program.

EVALUATION AND ASSESSMENT:

AUTOMOTIVE SERVICE TECHNICIAN FOUNDATION			
COTR COURSE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
AMST 101	Perform Safety-Related Functions	7%	7%
AMST 102	Use Tools, Equipment and Documentation	10%	10%
AMST 103	Use Communication and Mentoring Techniques	1%	0%
AMST 104	Diagnose and Repair Driveline Systems	3%	5%
AMST 105	Diagnose and Repair Electrical Systems and Components	23%	30%
AMST 106	Diagnose and Repair Steering and Suspension, Braking, Control Systems, Tires, Wheels, Hubs and Wheel Bearings	42%	41%

AMST 107	Diagnose and Repair Restraint Systems, Body Components, Accessories and Trim	5%	0%
AMST 108	Diagnose and Repair Hybrid and Electric Vehicles (EV)	4%	0%
AMST 109	Diagnose and Repair Engine Systems	5%	7%
	Total	100%	100%
In-School Theory/Practical Subject Competency Weighting		40%	60%
Final in-school percentage score Students must achieve a minimum 70% overall as the final in-school percentage score		IN-SCHOOL %	

Pass Requirements:

In order to pass this program, students are required to

- achieve a minimum 70% overall in-school percentage score
- pass all Workplace Health and Safety courses within the program

SAFETY:

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.

STUDENTS MUST PROVIDE THEIR OWN:

- Steel-toed Leather Work Boots
- Safety Glasses
- Coveralls and flame retardant work clothes
- Leather Welding Gloves
- Welding Goggles with #5 lens
- Computer
- Required Texts (as listed on front page)
- Pens, pencils, three-ring binder
- Calculator
- Paper
- Digital multi meter with 10 MΩ impedance

EXAM POLICY:

Students must attend all required scheduled 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 exam without approval will be given a grade of "0" for the exam.

PROGRAM GRADE:

Program grades are assigned as follows:

COM	Completed to defined standard $\geq 70\%$
NCG	No Credit Granted $< 70\%$

ACADEMIC POLICIES:

See www.cotr.bc.ca/policies for general college policies related to program activities, including grade appeals, cheating and plagiarism.

PROGRAM CHANGES:

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