



AST1 – Automotive Service Technician Foundation

Trades

Effective Term & Year: Fall 2022

Program Outline Review Date: 2026-03-01

Program Area: Trades Foundation Training

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:

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

Delivery Methods: Face-to-Face, Online

Program Duration: 30 Weeks

Instructional Activity and Hours:

Activity	Hours
Instructional Hours (hrs/wk)	28 hrs/wk
Directed Studies (hrs/wk)	2 hrs/wk
Total (hrs/wk)	30 hrs/wk
Total Program Hours	900 hours

Content Weighting:

Activity	Percentage
Classroom, Directed Studies or Online Instruction	40%
Seminar/Tutorials	60%

Admission Requirements:

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

Highly Recommended Admission Prerequisites:

- Either 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:

Credit can be awarded for this program through Flexible Assessment.

Program Transfer Credit:

For information about block transfer agreements between programs in British Columbia, Alberta, and elsewhere, please visit <http://www.cotr.bc.ca/transfer>.

To minimize transfer issues, check with an academic advisor at the institution that will receive the transfer credits.

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)

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

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:

- Successful completion of the in-school training is defined as a final overall minimum of 70% to meet SkilledTradesBC standards.
 - Students must maintain an acceptable level of attendance, complete all assigned projects and pass all exams to successfully complete the program.
 - Complete of all Workplace Health and Safety courses within the program.

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 M? impedance

Workplace Health and Safety Courses:

Occupational First Aid – Level 1 (OFA-1: PVHE-100)

Workplace Hazardous Material Information System (WHMIS: PVHE-700)

Workplace Health and Safety Courses Grade Scheme:

COM	NCG
Completed to the minimum defined standard	No credit granted – less than minimum defined standard

Academic Policies:

College of the Rockies policies related to courses can be found at <https://cotr.bc.ca/about-us/college-policies/> and include the following:

- Policy 2.4.3 Students with Documented Disabilities

- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.5.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

Program Grade

COM	NCG
Completed to the defined standard – 70% or greater	No Credit Granted – less than 70%

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.

Industry Training:

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

Safety Catalog:

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.

Course Descriptions: Refer to Course Outlines – <https://outlines.cotr.bc.ca/course/>