



EVM – Electric Vehicle Maintenance and Training

Trades

Effective Term & Year: Fall 2023

Program Outline Review Date: 2028-03-01

Program Area: Trades Non-apprenticeship Training

Description:

This course introduces Automotive Service Technicians to the safe handling procedures associated with Battery Electric and Hybrid Vehicle components. Students will also learn how to diagnose, repair and replace selected Electric Vehicle components.

Credentials Granted:

Zero Emissions Vehicle Technology & Service Associate Certificate

Delivery Methods: Hybrid (Face-to-Face and Online)

Program Duration: 30 Hours

Instructional Activity and Hours:

Activity	Hours
Instructional Hours (hrs/wk)	24
Directed Studies (hrs/wk)	6
Total (hrs/wk)	30
Total Program Hours	30

Admission Requirements:

Red Seal Automotive Service Technician OR have completed Level 3 Automotive Service Technician Apprenticeship Program.

Flexible Assessment:

Credit cannot 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 Course Outline Effective Date the following textbooks were in use (most current edition):

Hybrid and Electric Vehicle Technology and Service Manual, College of the Rockies package

Please see the instructor's syllabus or check COTR's online text calculator

<https://textbook.cotr.bc.ca/>

for a complete list of the currently required textbooks.

Program Competencies and Technical Training Content:

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

- Describe battery electric vehicle systems
- Demonstrate the use of PPE associated with high voltage
- Demonstrate the use of category 3 meters, insulated hand tools and equipment used with electric vehicles
- Describe high voltage electric motors
- Demonstrate high voltage safety plug removal on various models
- Test and Replace high voltage batteries, battery modules, and individual battery cells

- Test and Replace high voltage relays

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

Evaluation and Assessment:

Assignments	% Of Total Grade
Module Exam 1	5%
Module Exam 2	5%
Module Exam 3	5%
Class Participation	10%
Shop Practical Projects	25%
Final Exam (Open Book)	<u>50%</u>
Total	100%

Pass Requirements:

All coursework must achieve a minimum overall grade of 80%.

Students must provide their own:

- CSA-approved Steel-toed boots footwear CAN/CSA-Z195-02 (Green Triangle)
- CSA-approved safety glasses CAN/CSA-Z94.3-92

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 – 80% or greater	No Credit Granted – less than 80%

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.

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/>