VANCOUVER COMMUNITY COLLEGE

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ACAP 3003: Auto Body and Collision Technician Apprentice Level 3 (E-pprentice)

EFFECTIVE DATE

April 2023

DEPARTMENT

Auto Collision Apprenticeship

DESCRIPTION

This E-pprentice/alternate delivery course provides the Level 3 technical training component of the Provincial Auto Body and Collision Technician apprentice program. It requires only 2 weeks of on-campus training as opposed to the 5 week traditional course format. This is made possible with self-paced online studies, workplace assignments, and focused competency-based on-campus experience. Note: On-campus training may be delivered in multiple sessions. In this course students learn to prepare for structural repairs including structural measuring and component removal. Advanced welding is a focus including squeeze-type resistance spot welding (STRSW), bronze welding, and multi-position steel structural welding. Students receive hands-on training for repair, replacement, and sectioning procedures for welded-on, weld-bonded and rivet-bonded body panels. Mechanical components such as; heating, cooling, climate control, powertrain, exhaust, fuel systems and the deactivation/reactivation of alternate fuel systems are also addressed. Additionally, basic electrical component diagnosis and repair, supplemental restrain systems, pre/post-scanning, damage estimating, and final inspections are explored. Students achieving a VCC grade of 70% or greater are eligible for the ITA Standardized Written Exam. The VCC training grade is blended with the ITA Exam mark at 80%/20% to determine an overall final grade. Students achieving a blended grade of 70% or greater are eligible to: - receive ITA Technical Training credit for Auto Body and Collision Technician Level 3 - advance to Auto Body and Collision Technician Level 4

CREDITS

9.0

YEAR OF STUDY

1st Year Post-secondary

PREREQUISITES

Students must be registered with the Industry Training Authority of B.C. (ITA) and have received an Apprentice Identification number; and ACAP 2002 Auto Body and Collision Technician Apprentice Level 2, or ACAP 2003 Auto Body and Collision Technician Apprentice Level 2 (E-pprentice), or ACAP 2001 Automotive Collision Repair Technician Level 2 (pre-April 2021)* *Note: Students transitioning from the pre-April 2021 MVBR program are subject to a co-requisite for this course. Please refer to Course Co-requisites.

COREQUISITES

Students transitioning from the pre-April 2021 MVBR program (Automotive Collision Repair Technician Level 2) are subject to a gap-training module as a co-requisite for this course. This 36-hour module may include online self-study material and additional face-to-face instruction, and must be successfully completed during this course.

COURSE LEARNING OUTCOMES

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

- Maintain frame and unibody repair and measuring equipment (B8).
- Identify, diagnose and clear fault codes, calibrate systems, and confirm repairs using scan tools (B9).
- Perform various GMAW, STRSW and Silicone Bronze welds to industry standard visual and destructive testing criterion (C2).
- Create repair estimate and supplements with accuracy using industry software (D6).
- Perform and document various pre and post repair vehicle inspections (N1).
- Identify types and patterns of structural and non-structural damage (P1).
- Remove components in preparation for structural repairs (P2).
- Perform anchoring process for a unibody vehicle in preparation for structural pulling (P3).
- Describe structural repair considerations, equipment, realignment and stress relieving procedures (Q1).
- Perform structural panel removal procedure according to Perform structural panel removal procedures according to vehicle manufacturers' recommendations and industry standards (Q2).
- Perform welded-on structural panel sectioning procedure according to vehicle manufacturers' recommendations and industry standards (Q3).
- Describe alternate fuel system deactivation and reactivation according to vehicle manufacturers' recommendations and government safety regulations (T1-T2).
- Identify fundamentals of heating and cooling system and components (U1).
- Identify safe handling procedures of air conditioning system components (U1).
- Identify fundamentals of powertrain systems and components (U2).
- Describe removal and installation of mechanical components (U4-U5).
- Identify fundamentals of electrical systems and components (V1).
- Describe removal and installation of electrical components (V2, V4).
- Repair damaged wires and protective coverings and service low-voltage battery (V3).
- Describe electronic components, locations and considerations (V5).
- Describe servicing seat belt restraint systems (X1).
- Describe servicing air bags and related components according to vehicle manufacturers' recommendations and industry safety standards (X2).

PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

None

HOURS

Lecture: 20
Lab: 60
Practicum: 20

Self-paced: 150
Other: 170

INSTRUCTIONAL STRATEGIES

This course provides a wide range of opportunities for student learning including: - Scheduled and self-paced online theory assignments, - online group discussions and videoconferencing, - real work assignment to be performed in the workplace, - hands-on practical lessons and performance evaluations on-campus. Attendance and Participation Given the industrial nature of this course professional and safe work practice is of critical importance. A student may be withdrawn from the course for safety concerns and/or an inability to meet professional practice standards due to inadequate attendance. Excused absences are those reported in advance of a scheduled class, wherever possible, or if appropriate documentation can be provided for the time missed. Other absences will be reported as unexcused, and an excess of unexcused absences may result in a student being withdrawn from the course.

GRADING SYSTEM

Percentages-ITA

PASSING GRADE

70%

EVALUATION PLAN

Type	Percentage	Assessment activity
Quizzes/Tests	30	Formative theory quizzes
Exam	20	Summative theory exams
Assignments	50	Workplace and on-campus practical assignments

COURSE TOPICS

- Measuring Equipment, Use and Calibration
- Pre and Post-Scanning
- Advanced Welding:
  - Aluminum GMA (MIG) Welding
  - MIG Brazing
  - Squeeze-Type Resistance Spot Welding (STRSW)
  - Structural Steel Welding
- Damage Analysis and Estimating Writing
- Pre-Delivery Inspections and Quality Assurance
- Structural Repair Preparations:
  - Structural Damage Analysis

- Characteristics of Structural Metals
- Anchoring for Structural Pulling (Unibody)

- Welded-On Panel Repair and Replacement
  - Structural Sectioning
  - Weld-Bonding
  - Rivet-Bonding
- Mechanical Components:
  - Heating, Cooling, and Air Conditioning Systems
  - Powertrain Components, Exhaust and Fuel Systems
- Electrical Components:
  - Basic Electricity and Component Testing
  - Simple Circuit Diagnosis
  - Introduction to Advanced Vehicle Systems
- Supplemental Restraint Systems:
  - Seat Belt Restraints
  - Air Bags and Systems

LEARNING RESOURCES

None

Notes:

- Course contents and descriptions, offerings and schedules are subject to change without notice.
- Students are required to follow all College policies including ones that govern their educational experience at VCC. Policies are available on the VCC website at: https://www.vcc.ca/about/governance--policies/policies/.
- To find out how this course transfers, visit the BC Transfer Guide at https://www.bctransferguide.ca.