



# COURSE OUTLINE

**Course Name:** Welding, Cutting and Heating Steel 1

**Course Number:** ACRD 1140

**Number of Credits:** 3.5

**Effective Date:** May 2019

**Course Description:**

Students begin this course learning to safely perform oxyacetylene welding, cutting and heating operations to establish basic skills as a foundation for additional welding processes. Then, students learn to perform gas metal arc welding processes as well as troubleshooting, equipment maintenance and safe welding practices. Students also perform plasma arc cutting procedures. The course concludes with an industry standard weld performance qualification.

This course is part of the full-time Auto Collision Repair and Refinishing Diploma program.

**School or Centre:**

School of Trades, Technology & Design

**Year of Study:**

1st Year Post-secondary

**Course History:**

Replacement Course

**Name of Replacing Course (if applicable):**

ACRD 1115, ACRD 1120

**Course Pre-requisites (if applicable):**

**Course Co-requisites (if applicable):**

**PLAR (Prior Learning Assessment & Recognition)**

No  Yes (details below):

**Instructional Strategies:**

Instructional strategies may include lectures, demonstrations, assigned homework, group work, individual work, field trips, and project work in an authentic shop environment.

**Course Learning Outcomes:**

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

1. Describe oxyacetylene safety
2. Perform oxyacetylene procedures
3. Describe Gas Metal Arc Welding (GMAW) safety
4. Describe the GMA welding process
5. Perform various GMA welds on sheet steel
6. Describe and use plasma arc cutters

**Program Learning Outcomes:**

Upon completion of this program, graduates will be able to:

1. Apply the skills and knowledge necessary to perform at an apprentice level automotive refinishing, automotive glass or automotive collision technician to provincial standards;
2. Evaluate completed repairs for consistency, accuracy and quality according to industry specifications and standards;
3. Adhere to industry health and safety standards in the repair and reconditioning of automotive vehicles;
4. Practice professional etiquette and personal hygiene while performing repairs;
5. Work effectively as a team member while performing repairs.

## Evaluation/Grading System

Grading System	Specify if 'Other':	Specify Passing Grade:
Percentages		70%

## Components and Weighting of the Assessment/Evaluation Plan:

Type	Percentage	Evaluation Plan (provide a brief explanation for each component especially if value exceeds 35%):
Assignments	25	Quizzes and Assignments (formative - theory)
Exam	20	Theory exam ( summative - theory)
Assignments	30	Ongoing observations of workplace behavior and use of personal protective equipment.
Participation	25	Observable active participation and team work
	<b>Total</b>	<b>100</b>

## Learning Environment/Type

Instruction Type	Hours Per Instruction Type	Comments
J - Classroom/Online (Mixed Mode)	37.5	
K - Shop/Teaching Kitchen	50	
	<b>Total</b>	<b>87.5</b>

## Resource Material(s):

Resources are items in addition to tuition that the student is responsible for purchasing. Course resource information will be supplied by the department/instructor.

**Course Topics:**

Steel Used In Vehicle Construction  
Oxyacetylene Welding and Cutting  
Steel Unitized Structures, Technologies and Repairs  
Steel Gas Metal Arc Welding  
Plasma Arc Cutting

## VCC Education and Education Support Policies

There are a number of **Education** and **Education Support** policies that govern your educational experience at VCC, please familiarize yourself with them.

The policies are located on the VCC web site at:

<http://www.vcc.ca/about/governance--policies/policies/>

To find out how this course transfers, visit the BC Transfer Guide at [www.bctransferguide.ca](http://www.bctransferguide.ca).

### FOR COMMITTEE USE ONLY

Approved by Curriculum Committee:	October 16, 2018	Approved by Education Council:	November 13, 2018
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