



ACRF 1140: Welding, Heating and Cutting Steel

EFFECTIVE DATE

September 2021

DEPARTMENT

Automotive Collision Repair

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. The course concludes with an industry standard weld performance qualification test.

CREDITS

3.0

YEAR OF STUDY

1st Year Post-secondary

PREREQUISITES

None

COREQUISITES

None

COURSE LEARNING OUTCOMES

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

- Describe oxyacetylene components and safety devices.
- Perform oxyacetylene setup and shut down procedures according to industry standards and safe work practice.
- Describe gas metal arc welding (GMAW) equipment components and safety hazards.
- Describe gas metal arc welding process variables and their affects on the structural integrity of vehicle repairs.
- Perform gas metal arc welding setup and shut down procedures according to industry standards and safe work practice.
- Perform various gas metal arc welds on sheet steel to industry standard visual and destructive testing

criterion.

PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

None

HOURS

Lecture: 25

Lab: 50

INSTRUCTIONAL STRATEGIES

Instructional strategies include: Lectures, demonstrations, group work, individual work, field trips, and project work in an authentic shop environment.

GRADING SYSTEM

Percentages-ITA

PASSING GRADE

70

EVALUATION PLAN

Type	Percentage	Assessment activity
Quizzes/Tests	30	Formative theory (quizzes and assignments)
Exam	20	Summative theory
Assignments	30	Performance evaluations
Participation	20	Active participation, teamwork

COURSE TOPICS

- Properties of Steel 1: Steel Used in Vehicle Construction
- Oxyacetylene Heating and Cutting
- Properties of Steel 2: Steel Unitized Structures, Technologies and Repairs
- Steel Gas Metal Arc Welding

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>.

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