



CRT 2410

Division: Career and Technical Education

Department: Collision Repair and Refinishing Technology

Course: CRT 2410

Title: Full and Partial Replacement

Catalog Description:

This course teaches removal, alignment, welding, gluing, and corrosion protection technology needed to replace unibody components, including rails, pillars, and weld-on panels. It includes lecture, demonstrations, labs and uses Inter-Industry Conference on Auto Collision Repair (I-CAR) curriculum. Students who successfully complete the course will be prepared for Automotive Service Excellence (ASE) certification.

General Education Requirements: N/A

Semesters Offered: TBA

Credit/Time Requirement: Credit: 4; Lecture: 1; Lab: 7

Clock/Hour Requirements: 128

Offered for Non-Credit: No

Prerequisites: CRT 1110

Corequisites: None

Justification:

The I-CAR curriculum is recognized as the leader in collision repair training. It also provides the necessary information to pass the ASE task lists and tests required for certification. This course was approved by the advisory committee and similar courses are taught at Utah Valley State College (CRT 2410) and Salt Lake Community College (ACR 1211).

Student Learning Outcomes:

Upon successful completion, students will be able to:

- determine Original Equipment Manufacture (OEM) recommendations (or TEC-Cor or I-CAR)
- remove damaged parts without further damaging attached components
- prepare weld areas for maximum weld strength and corrosion protection
- make strong metal inert gas (MIG) welds of correct type
- fit and align to 3 mm tolerance
- remove and replace a door skin
- properly restore corrosion protection
- remove and install seam sealer
- keep tools and work area clean

- demonstrate safety at the worksite.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- hazard management
- identify structural panels
- construction types
- butt joint with insert
- butt joint offset
- lab joint
- research study
- replacing at factory seam
- replacing front rails
- replacing rear rails
- replacing A pillars
- replacing B pillars
- replacing floor pans
- full body sectioning
- spot weld removal
- door skinning
- quarter panel replacement
- spot welding
- stitch welding
- history of auto glass
- glass replacement tools
- replacement of glued in glass
- replacement of gasketed glass
- replacement of movable glass.

General Education Outcomes:

6) Apply computational skills to a variety of contexts.

Students will be required to measure body components before and after repair work is completed to ensure that proper tolerances and allowances are achieved. These measurements are taken often and repeatedly throughout the repair process to ensure progress toward the repair. These measurements are provided by laser, tram, and steel tape in metric and U.S. standard measurements.

Key Performance Indicators:

In class:

- Student progress will be evaluated on skill levels demonstrated in lab (70%), quiz scores (10%), and a final comprehensive exam (20%).

Following class:

- Upon completion of the course, safety and competency will be demonstrated in subsequent courses and on custom projects.
- Students will apply the techniques acquired on the job and pass national ASE certification tests.

Representative Text and/or Supplies:

- James E. Duffy, *I-CAR student textbooks and modules*, current editions, Delmar Publishers.

Optimum Class Size: 10

Maximum Class Size: 20

Signatures:

I hereby submit this course syllabus:

Andy Morgan, ,

I hereby find this course consistent with the goals and resources of the Collision Repair and Refinishing Technology Department:

Andy Morgan, , , Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)