



CRT 1220

Division: Career and Technical Education

Department: Collision Repair and Refinishing Technology

Course: CRT 1220

Title: Panel Replacement and Adjustment

Catalog Description:

This course teaches removal, replacement, and alignment of bolt-on body panels. It presents rust removal and sheet metal fabrication by using metal brake, shrinking tools, and other hand-machine techniques. The course includes lecture, demonstrations, and lab and uses Inter-Industry Conference on Auto Collision Repair (I-CAR) curriculum. Students who successfully complete this 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 1220) and Salt Lake Community College (ACR 1211).

Student Learning Outcomes:

Upon successful completion, students will be able to:

- select the type of repair system needed when given a vehicle with rust-out damage
- repair inner and outer panels
- make a paper template which fits area of repair
- lay out replacement area which is to be sectioned
- tack weld replacement area into proper position
- weld complete panel and control warping factor
- filter applications to blend contour where required
- obtain replacement panel for proper vehicle make/model

- remove panel to be replaced with no loss of attaching bolts or clips
- obtain safe, organized storage area for panel attachments
- prepare and align inner panel to accept the replacement panel
- bolt on panel for alignment.

Content:

Course objectives will be achieved by providing students with instructional and hands-on experiences in the following areas:

- risk and hazard management
- required hand tools and their use
- removal of fender, bumper, header panel, and hoods
- removal of doors, door panels, and replacements to each panel with proper adjustments
- removal and replacement of internal panels and trim
- removal and replacement of rear bumper, deck lid, and lights with proper adjustments
- metal conditioners and rust stop products and safety procedures
- types of rust damage and proper repairs
- introduction to fabricating tools
- fabrication of patch panels
- shrink or stretch metal to form repair area.

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)