



CRT 2330

Division: Career and Technical Education

Department: Collision Repair and Refinishing Technology

Course: CRT 2330

Title: Structural Repair

Catalog Description:

This course teaches methods, strategies, and technology needed to align and straighten unibody and frame components made from high stretched steel and plastics. It includes alignment of steering and suspension components using lecture, demonstrations, and lab.

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 Inter-Industry Conference on Auto Collision Repair (I-CAR) curriculum is recognized as the leader in collision repair training. It also provides the necessary information to pass the Automotive Service Excellence (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 2330) and Salt Lake Community College (ACR 1211).

Student Learning Outcomes:

Upon successful completion, students will be able to:

- load, unload, pull, and anchor vehicles on Korek, Chief, and Pull Post systems
- stress relieve damage
- determine proper pull angles
- determine proper pull attachment
- identify plastic parts by sanding, burn, and code
- weld common automotive plastics (ABS, PP, POR)
- repair plastic parts with structural adhesives
- identify types and parts of suspension systems
- identify types and parts of steering systems

- identify wheel alignment angles
- remove and repair suspension and steering components to criteria listed in motor manuals
- troubleshoot handling and tire wear problems
- align wheels.

Content:

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

- hazard management
- frame and unibody repair philosophy
- attachment tools and technique
- anchor tools and technique
- power post operation
- Korek operation
- chief operation
- stress relieving
- pulling diamond and twist
- pulling sway and side damage
- pulling rollover damage
- suspension types and parts
- wheel angles
- measure angle
- troubleshooting
- plastic types and identification
- welding plastics
- adhesive repairs
- sheet molded compound (SMC) repairs.

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)