Course Number: Instructor: Jeff Owen
OCAS Code: Phone Number: 580.327.0344
Course Length: 90 hours Email: jowen@nwtech.edu
Career Cluster: Transportation, Distribution, & Logistics Campus: Alva
Career Pathway: Automotive Collision Repair Program: Collision Technology
Career Major: Combination Collision Repair Technician, Non-Structural Repair Technician
Pre-requisite: None
Course Description: In this course the student will learn the basics of using metal straightening tools, such as dollies and hammers to repair minor dents and dings in sheet metal. Students will cover techniques to repair contours and bodylines in sheet metal. Metal shrinking and stretching will be taught to help students bring the metal back to original contour. Students will learn about the different body fillers. Students will learn techniques to mix and apply body filler. Students will learn to select the proper sandpaper and sanding equipment and learn techniques to sand the cured body filler to original contour then prepare the repair for primer.

Instructional Philosophy: The instructor will provide not only technical training in the Auto Collision Technology area but also soft-skills training in an effort to provide training and services needed for students to succeed in the workplace.

Course Goals: Upon successful completion of this course, the student will be able to:

- Review damage report and analyze damage to determine appropriate methods for overall repair; develop repair plan.
- Inspect, remove, store, and replace exterior trim and moldings.
- Inspect, remove, store, and replace interior trim and components.
- Inspect, remove, store, and replace non-structural body panels and components that may interfere with or be damaged during repair.
- Inspect, remove, store, and replace all vehicle mechanical and electrical components that may interfere with or be damaged during repair.
- Protect panels, glass, and parts adjacent to repair area.
- Soap and water wash entire vehicle; use appropriate cleaner to remove contaminants from those areas to be repaired.
- Remove corrosion protection, undercoatings, sealers, and other protective coatings necessary to perform repairs.
- Inspect, remove, and replace repairable plastics and other components that are recommended for off-vehicle repair.
- Apply safety procedures associated with vehicle components and systems such as ABS, air bags, refrigerants, batteries, tires, oil, anti-freeze, engine coolants, etc.
- Determine the extent of direct and indirect damage and direction of impact; develop repair plan.
- Inspect, remove and replace bolted, bonded, and welded steel panel or panel assemblies.
- Determine the extent of damage to aluminum body panels; repair, weld or replace in accordance with manufacturer's specifications.
- Inspect, remove, replace, and align hood, hood hinges, and hood latch.
• Inspect, remove, replace, and align deck lid, lid hinges, and lid latch.
• Inspect, remove, replace, and align doors, tailgates, hatches, lift gates, latches, hinges, and related hardware.
• Inspect, remove, replace, and align bumper bars, covers, reinforcement guards, isolators, and mounting hardware.
• Inspect, remove, replace and align front fenders, headers, and other panels.
• Straighten and rough-out contours of damaged panel to a surface condition for body filling or metal finishing using power tools, hand tools, and weld-on pull attachments.
• Weld cracked or torn steel body panels; repair broken welds.
• Restore corrosion protection.
• Cut out damaged sections of sheet steel body panels and weld in replacements according to manufacturer/industry specifications.
• Replace door skins according to manufacturer's procedures.
• Replace or repair rigid, semi-rigid, and flexible plastic panels according to manufacturer's/industry specifications.
• Restore sealers, sound deadeners, and foam fillers.
• Perform panel bonding.
• Diagnose and repair water leaks, dust leaks, and wind noise.
• Remove paint from the damaged area of a body panel.
• Locate and reduce surface irregularities on a damaged body panel.
• Demonstrate hammer and dolly techniques.
• Heat shrink stretched panel areas to proper contour.
• Cold shrink stretched panel areas to proper contour.
• Mix body filler.
• Apply body filler; shape during curing.
• Rough sand cured body filler to contour; finish sand.

Major Course Projects:

Students are allowed to work on their own projects as well as live-work projects as approved by instructor.

Students will compile a portfolio which includes classroom theory and activities as well as a summary of hands-on work in the shop. Students will include photographs of projects and live work projects with descriptions for each photo.

Project Outline:

Students may begin working on projects as their skill level allows. All projects must be completed by the first of May. These projects will reinforce classroom theory instruction and will require the student to consult industry service information during the course of task performance.

Instructional Delivery Plan:

The instruction for this course will utilize various methods in an effort to promote and accommodate different learning styles including classroom lecture, classroom demonstrations, shop demonstrations, hands-on learning activities, classroom discussion, interactive media, textbook, computer based learning activities, research projects, guest speakers, and student presentations. Students will be required to work independently as well as in teams. Assignments will require students to use academic skills in math, science, and language arts.

Assessment Plan:

Pass Safety Test with 100% accuracy.

Assessment Plan:
50% Performance of technical skills
45% Tests and written assignments
5% Academic Career Center (ACC)

Grading Scale:
A  90-100  Exceeds expectations
B  80-89  Meets industry standards and expectations
C  70-79  Passing grade, but does not meet some standards
D  60-69  Passing, but only meets the minimum standards
F  Below 60  Failing, does not meet minimum standards

Alliance Credit Offered: OSU-IT
Industry Alignments: ICAR

End of Instruction Assessment: Students will have to pass Safety Test at 100% accuracy and demonstrate safety practices.

Industry Assessment: http://www.okcareertech.org/testing/Skills_Standards/TransportationCareer_Cluster.htm
ASE: Collision Repair and Refinish Series – Non-Structural Analysis and Damage Repair
ASE: Collision Repair and Refinish Series – Structural Analysis & Damage Repair

Resources: I-CAR Worker Protection Curriculum
SP/2 – http://www.sp2.org

Attachments: Student curriculum is available at www.nwtech.edu/owen