Course Number:  Instructor: Jeff Owen
OCAS Code: Phone Number: 580.327.0344
Course Length: 120 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, Refinishing Technician
Pre-requisite: None
Course Description: In this course spray gun operation will be covered in great detail and applied to different products used in refinishing. Students will learn about corrosion protection products and how to mix and apply them, which will include etching primers, primer surfacer and sealing materials. Seam sealers and chip resistant coatings will be covered to demonstrate their role and application process. Students will learn about topcoats, like basecoat/clear coat products and their application techniques. Included in this course is instruction to determine the cause and corrective action for finish failures.

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:

- 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.
• Inspect, clean, and determine condition of spray guns and related equipment (air hoses, regulators, air lines, air source, and spray environment).
• Check and adjust spray gun operation for HVLP (high volume, low pressure) or LVLP (low volume, low pressure) guns.
• Set-up (fluid needle, nozzle, and cap), adjust, and test spray gun using fluid, air, and pattern control valves.
• Shake, stir, reduce, catalyze/activate, and strain paint according to manufacturer's procedures.
• Apply finish using appropriate spray techniques (gun arc, gun angle, gun distance, gun speed, and spray pattern overlap) for the finish being applied.
• Apply selected product on test and let-down panel in accordance with manufacturer's recommendations; check for color match.
• Apply single stage topcoat for refinishing.
• Apply basecoat/clearcoat for panel blending or partial refinishing.
• Apply basecoat/clearcoat for overall refinishing.
• Denib, buff, and polish finishes where necessary.
• Identify the types of rigid, semi-rigid or flexible plastic parts to be refinished; determine the materials, preparation, and refinishing procedures.
• Refinish rigid, semi-rigid and flexible plastic parts.
• Clean, condition and refinish vinyl (e.g. upholstery, dashes, and tops).
• Apply multi-stage (tricoat) coats for panel blending or overall refinishing.
• Identify and mix paint using a formula.
• Identify poor hiding colors; determine necessary action.
• Tint color using formula to achieve a blendable match.
• Identify alternative color formula to achieve a blendable match.

**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
Industry Assessment:
Students will have to pass Safety Test at 100% accuracy and demonstrate safety practices.
http://www.okcareertech.org/testing/Skills_Standards/TransportationCareer_Cluster.htm
Auto Body: Painting and Refinishing Technician - CTTC
http://www.okcareertech.org/testing/PDF_Docs/FY08pdf/32005_PaintRefinshTech.pdf
ASE: Collision Repair and Refinish Series – Painting and Refinishing
NOCTI: Collision Repair Technology -
http://www.nocti.org/PDFs/JobReady/3006_Collision_Repair.pdf

Resources:
I-CAR Worker Protection Curriculum
SP/2 – http://www.sp2.org
Transportation, Distribution, & Logistics Career Cluster Resources -

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