Tulsa Tech 14-15 SY Course Syllabus

REFINISH PREPARATION
Course Syllabus

Course Number: ART-0284
OCAS Code: None
Course Length: 105 Hours
Career Cluster: Transportation, Distribution & Logistics
Career Pathway: Automotive Collision Repair
Career Major(s): Collision Repair Technician

Pre-requisite(s): In this course the student will learn how to prepare the surface for the refinishing process. The student will cover topics about sandpaper and learn techniques to choose the proper grit and how to operate sanding equipment. This course will provide instruction in masking techniques and products used to mask and protect areas not in the refinish operation. The students will learn proper techniques for block and finish sanding prior to topcoat application. Students will learn to apply proper substrate cleaning before the application of refinish products.


Course Objectives: A. Interpret Refinishing Measurements.
1. State units of volume, temperature, and weight used in standard units.
2. State comparable units (#1) in metrics.
3. Read both standard and metric rulers.
4. Read temperature in Fahrenheit and Celsius.
5. Solve paint percentage and ratio problems using standard measuring units and metric units.
6. Identify and mix paint formula.

B. Perform Preliminary Analysis.
1. Inspect and identify type of finish and surface condition; develop a plan for refinishing.
2. Analyze the sequence for performing a spot, panel, and overall paint job.
3. Classify location in shop where each of these tasks is performed.
4. Interpret work assignments for a work order form.
5. Compound or prepare around edge of the area to be refinished. (HP-I)
6. Remove dust from vehicle including cracks and moldings in the area to be refinished. (HP-I)
7. Remove dust or lint particles from area to be refinished with tack rag. (HP-I)
8. Identify aluminum parts to be refinished; determine the materials, preparation, and refinishing procedures. (HP-G)

C. Pre-Clean Painted Surfaces.
1. Review personal and environmental safety practices.
2. Determine the correct solvent for the topcoat being used.
3. Remove dirt, wax, and road grime, and special adjacent surfaces; wash entire vehicle.
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4. Soap and water wash entire vehicle; use appropriate cleaner to remove contaminants. (HP-I) 1
5. Determine the amount of surface area to be cleaned.
6. Prepare an exterior surface for sanding.
7. Prepare an interior surface for sanding.
8. Remove polysilicone coating from a panel.
9. Remove rock guard from a panel.
10. Inspect, remove, store and replace trim and components necessary for proper surface preparation. (HP-I) 1

D. Strip Painted Surfaces.
1. Inspect and identify substrate, type of finish, surface condition and film thickness; develop a plan for refinishing, using a total product system. (HP-I) 1
2. Select the best method of removing finish for the repair desired.
3. Remove paint finish. (HP-I) 1
4. Remove finish by the use of chemical paint removers. (HP-I) 1
5. Remove finish with a sandblaster and proper selection of abrasive material.

E. Sand Painted Surfaces.
1. Inspect and identify type of finish and surface condition; develop plan for refinishing.
2. Distinguish and select proper grit size for task being performed.
3. Select the best method of sanding for the task being performed.
4. Featheredge damaged areas to be refinished. (HP-I) 1
5. Sand area to be refinished using dry sand method.
6. Dry or wet sand areas where primer-surface and glazing putty have been applied.
7. Scuff sand to remove nibs or overspray from a sealer. (HP-I) 1
8. Color sand to remove dust and other finish defects. (HP-I) 1
9. Clean area to be refinished using a final cleaning solution. (HP-I) 1
10. Dry or wet sand areas to be refinished. (HP-I) 1
11. Remove, with a tack rag, any dust or lint particles from the area to be refinished. (HP-I) 1

F. Use Masking Materials
1. Choose the proper masking materials for the type or repair being performed.
2. Choose and incorporate masking aids to speed masking process.
3. Mask a vehicle for a spot repair.
4. Mask a vehicle for a panel repair.
5. Mask a vehicle for blending a mismatched color.
6. Mask a vehicle for an overall paint job.
7. Mask a vehicle for door jam refinishing,
8. Protect vehicle door jams from overspray.
10. Apply protective masking against damage from bodywork on an adjacent panel.
11. Reverse mask.
12. Mask and protect other areas that will not be refinished. (HP-I) 1

G. Prepare Metal
1. Apply suitable metal treatment or primer in accordance with total product systems. (HP-I) 1
2. Review and follow manufacturer’s recommendations as to which methods and steps should be used.
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3. Prepare steel-body metal for primer application.
4. Prepare galvanneal, plymetal, galvanized, and other zinc-coated metals for primer application.
5. Prepare new anodized, untreated, and oxidized aluminum for primer application.
6. Prepare stainless steel and chromium plated surfaces for primer application.
7. Prepare non-metallic surfaces for primer application.
8. Prepare adjacent panels for blending. (HP-I) ¹

H. Restore Corrosion Protection
1. Define corrosion and describe the common factors involved in rust formation.
2. Describe the anticorrosive materials used to prevent and retard rust formation.
3. List conditions and events that lead to corrosion on a vehicle body.
4. Choose the correct anticorrosive application equipment for specific applications.
5. Discuss the correct corrosion treatment procedures for the general corrosion treatment areas.
6. List various types of seam sealers match them with their usage.
7. Restore corrosion protection. (HP-I) IIB11
8. Apply protective coatings and sealants.
9. Restore sound deadeners and foam materials. (HP-I) IIB13
10. Clean, prime, and coat repaired unibody structural areas to restore vehicle manufacturers' level of corrosion protection.
11. Restore corrosion protection to repaired or replaced frame areas.

¹ASE objective
All unmarked objectives are TTC instructor developed.

Teaching Methods: The class will primarily be taught by the lecture and demonstration method and supported by various media materials to address various learning styles. There will be question and answer sessions over material covered in lecture and media presentations. Supervised lab time is provided for students to complete required projects.

Grading Procedures: 1. Students are graded on theory and shop practice and performance.
2. Each course must be passed with seventy (70%) percent or better.
3. Grading scale: A=90-100%, B=80-89%, C=70-79%, D=60-69%, F=50-59%.

Description of Classroom, Laboratories, and Equipment: Tulsa Technology Center campuses are owned and operated by Tulsa Technology Center School District No. 18. All programs provide students the opportunity to work with professionally certified instructors in modern, well-equipped facilities.
Available Certifications/College Credit

The student may be eligible to take state, national or industry exam after completion of the program. College credit may be issued from Oklahoma State University-Okmulgee or Tulsa Community College. See program counselor for additional information.

College Credit Eligibility:

The student must maintain a grade point average of 2.0 or better.