

New Horizons Regional Education Centers
Auto Body Repair Technology I & II Course Syllabus
State Course Numbers : 8676-8677
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Office Hours

7:00 AM - 3:00 PM

Course Description

Students in this program are prepared for careers in their fields through the use of the latest technologies and state-of-the-art equipment. Throughout the program, students gain daily practical experience by working on vehicles. Each student will become familiar with the latest finishes from single-stage to multi-stage finishes. Selected students may be eligible for work experiences at local repair facilities. Successful completion of the two-year Auto Body program can reduce the two years of experience required for Automotive Service Excellence (ASE) certification by one year.

Course Fees

Supplies kit \$53.50

Materials For Class

2" three-ring binder
Safety shoes (steel toe recommended)
Coveralls (recommended) or change of clothes
Blowgun
Sanding block
Respirator

Evaluation of Student Performance/Grading

Employability Skills - 30%
Related Instruction (Test, quizzes, notebook, class work) - 35%
Competencies (hands-on, and workplace skill demonstration) - 35%

List of Skills Topics:

First Nine Weeks

First and Second Year students will learn:

Safety

Identify and demonstrate precautions with hazardous operations and materials according to federal, state, and local regulations.

Identify safety and personal health hazards according to OSHA guidelines and the "right-to-know law."

Inspect spray environment.

Select and use the NIOSH-approved personal sanding respirator

Select and use personal safety equipment

Select and use the NIOSH-approved (Fresh Air Make-up System) personal painting/refinishing respirator system

Preparing for the Automotive Body Repair Career

Research opportunities in the automotive body repair field

Identify the basic construction of the auto body.

Demonstrate comprehension of additional ASE areas

Identify standards for structural analysis and damage repair.

Identify standards for non-structural analysis and damage repair (body components).

Identify the purposes and goals of the student organization.

Participate in course activities sponsored by the student organization (e.g., meetings, programs, and other projects that require specialized skills and concepts)

First Year students will learn:

Using tools and equipment:

Demonstrate safe use and maintenance of general hand tools.

Demonstrate safe use and maintenance of specialized auto body repair tools.

Identify emergency fire procedures, including the proper use of fire protection equipment

Use chemicals safely

Preparing the surface

Wash entire vehicle with soap and water; use appropriate cleaner to remove contaminants

Inspect, remove, store, and replace exterior trim and molding

Inspect and identify substrate, type of finish, and surface condition.

Second Year students will learn:

Operating Spray Gun and Related Equipment

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.

Second Nine Weeks

First year students will learn:

Remove paint finish.
Dry or wet sand areas to be refinished.
Featheredge broken areas to be refinished
Apply metal treatment or primer.
Mask trim and protect other areas that will not be refinished
Mix primer, primer-surfacer, or primer-sealer
Apply primer onto surface of repaired area.

First year students will learn:

Apply two-component finishing filler to minor surface imperfections
Dry or wet sand area to which primer-surfacer has been applied
Dry sand area to which two-component finishing filler has been applied
Remove dust from area to be refinished, including cracks or moldings of adjacent areas
Clean area to be refinished using a final cleaning solution
Apply sealer to the area being refinished.
Scuff sand to remove nibs or imperfections from a sealer.
Apply stone chip-resistant coating.
Restore corrosion-resistant coatings, caulking, and seam sealers to repaired areas.
Prepare adjacent panels for blending.

Second year students will learn:

Mixing Matching and Applying Paint

Determine type and color of paint already on vehicle by manufacturer's vehicle information label
Shake, stir, reduce, catalyze/activate, and strain paint.
Use spray techniques to apply the finish
Apply selected product on test and let-down panel
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
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; correct the condition.
Tint color using formula to achieve a blendable match.
Research and identify alternative color formula to achieve a blendable match.

Third Nine Weeks

First year students will learn:

Operating Spray Gun and Related Equipment

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.

Remove paint finish.

Dry or wet sand areas to be refinished.

Featheredge broken areas to be refinished

Apply metal treatment or primer.

Mask trim and protect other areas that will not be refinished

Mix primer, primer-surfacer, or primer-sealer

Apply primer onto surface of repaired area.

Second year students will learn:

Using Metal Finishing and Body Filling

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

Mix body filler.

Apply body filler; shape during curing

Rough sand-cured body filler to contour; finish sanding..

Fourth Nine Weeks

First year students will learn:

Apply two-component finishing filler to minor surface imperfections

Dry or wet sand area to which primer-surfacer has been applied

Dry sand area to which two-component finishing filler has been applied

Remove dust from area to be refinished, including cracks or moldings of adjacent areas

Clean area to be refinished using a final cleaning solution

Apply sealer to the area being refinished.

Scuff sand to remove nibs or imperfections from a sealer.

Apply stone chip-resistant coating.

Restore corrosion-resistant coatings, caulking, and seam sealers to repaired areas.

Prepare adjacent panels for blending.

Second year students will learn:

Using Metal Finishing and Body Filling

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

Mix body filler.

Apply body filler; shape during curing

Rough sand-cured body filler to contour; finish sanding

Preparing for the Automotive Body Repair Career

Research opportunities in the automotive body repair field
Prepare portfolio of current skills.
Identify the basic construction of the auto body.
Demonstrate comprehension of additional ASE areas.
Identify standards for structural analysis and damage repair.
Identify standards for non-structural analysis and damage repair (body components).
Identify ASE standards for mechanical and electrical components
Identify the purposes and goals of the student organization.
Participate in course activities sponsored by the student organization (e.g., meetings, programs, and other projects that require specialized skills and concepts).

Examining All Aspects of Industry

Planning, Management, Finance

Technical and Production Skills

Underlying Principles of Technology

Labor Issues Community Issues, Health, Safety, and Environmental Issues