



Department of Teaching & Learning
Parent/Student Course Information

Auto Body and Paint Technology I
(VO8676)
Three Credits, One Year
Grades 11 or 12

Counselors are available to assist parents and students with course selections and career planning. Parents may arrange to meet with the counselor by calling the school's guidance department.

COURSE DESCRIPTION

This two-year program covers all aspects of auto body repair from estimating to a complete paint job. Students learn to analyze different types of body damage and to restore vehicles to their original appearance. Students will be taught to weld, straighten a frame, repair fiberglass, use plastic filler, complete hand and power sanding, spray paint and replace damaged glass. Students also are trained to custom mix paint.

CERTIFICATION

National Occupational Competency Testing Institute: Collision Repair/Refinishing Technology
Automotive Service Excellence: Non-Structural Analysis/Damage Repair Certification
Environmental Protection Agency (EPA): Safety and Pollution Prevention Certification

STUDENT ORGANIZATION

SkillsUSA is a co-curricular organization for all students enrolled in trade and industrial education programs. SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps students excel by providing educational programs, events and competitions that support career and technical education (CTE) in the nation's classrooms. Students are highly encouraged to participate.

PREREQUISITE

None

OPTIONS FOR NEXT COURSE

Auto Body and Paint Technology II

REQUIRED STUDENT TEXTBOOK

None

COMPETENCIES FOR AUTO BODY AND PAINT TECHNOLOGY I

Demonstrating Workplace Readiness Skills: Personal Qualities and People Skills

- 1 Demonstrate positive work ethic.
- 2 Demonstrate integrity.
- 3 Demonstrate teamwork skills.
- 4 Demonstrate self-representation skills.
- 5 Demonstrate diversity awareness.
- 6 Demonstrate conflict-resolution skills.
- 7 Demonstrate creativity and resourcefulness.

Demonstrating Workplace Readiness Skills: Professional Knowledge and Skills

- 8 Demonstrate effective speaking and listening skills.
- 9 Demonstrate effective reading and writing skills.
- 10 Demonstrate critical-thinking and problem-solving skills.
- 11 Demonstrate healthy behaviors and safety skills.
- 12 Demonstrate an understanding of workplace organizations, systems and climates.
- 13 Demonstrate lifelong-learning skills.
- 14 Demonstrate job-acquisition and advancement skills.
- 15 Demonstrate time-, task- and resource-management skills.
- 16 Demonstrate job-specific mathematics skills.
- 17 Demonstrate customer-service skills.

Demonstrating Workplace Readiness Skills: Technology Knowledge and Skills

- 18 Demonstrate proficiency with technologies common to a specific occupation.
- 19 Demonstrate information technology skills.
- 20 Demonstrate an understanding of Internet use and security issues.
- 21 Demonstrate telecommunications skills.

Examining All Aspects of an Industry

- 22 Examine aspects of planning within an industry/organization.
- 23 Examine aspects of management within an industry/organization.
- 24 Examine aspects of financial responsibility within an industry/organization.
- 25 Examine technical and production skills required of workers within an industry/organization.
- 26 Examine principles of technology that underlie an industry/organization.
- 27 Examine labor issues related to an industry/organization.
- 28 Examine community issues related to an industry/organization.
- 29 Examine health, safety and environmental issues related to an industry/organization.

Addressing Elements of Student Life

- 30 Identify the purposes and goals of the student organization.
- 31 Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.
- 32 Demonstrate leadership skills through participation in student organization activities, such as meetings, programs and projects.
- 33 Identify Internet safety issues and procedures for complying with acceptable use standards.

Preparing for Non-Structural Analysis and Damage Repair

- 34 Pass S/P2 (Safety Pollution and Prevention) safety exams.
- 35 Analyze damage to determine procedures for overall repair.
- 36 Remove and replace exterior trim and moldings.

- 37 Remove and replace interior trim and components.
- 38 Remove and replace non-structural body panels and components that may interfere with or be damaged during repair.
- 39 Remove and replace all vehicle mechanical and electrical components that may interfere with or be damaged during repair.
- 40 Protect panels, glass, and parts adjacent to the repair area.
- 41 Clean the vehicle, using a Volatile Organic Compound (VOC)-compliant solvent.
- 42 Remove corrosion protection, undercoating, sealers and other protective coatings necessary to perform repairs.
- 43 Remove and replace repairable composites and other components that are recommended for off-vehicle repair.
- 44 Store parts and materials to prevent loss and damage.
- 45 Demonstrate safe use and operation of tools common to the collision repair industry.
- 46 Explain vehicle parts, assemblies, and fasteners used in the collision repair industry.

Repairing the Outer Body Panel

- 47 Remove and replace hood, hood hinges, and hood latch.
- 48 Remove and replace deck lids, hatches, and tailgates, including hinges and latches.
- 49 Remove and replace doors, hinges, and related hardware.
- 50 Remove and replace bumper bars, covers, reinforcement guards, isolators and mounting hardware.
- 51 Remove and replace front fenders, headers and other panels.
- 52 Straighten damaged panels for body filling or metal finishing.
- 53 Restore corrosion protection (e.g., undercoating, sealers).
- 54 Explain procedures for removing and replacing door skins.
- 55 Restore sound deadeners and foam materials.
- 56 Explain procedures for attaching a panel, using bonding material.

Applying Metal Finishing and Body Filling

- 57 Remove paint from the damaged area of a body panel.
- 58 Repair surface irregularities on a damaged body panel.
- 59 Demonstrate hammer and dolly techniques.
- 60 Heat- and cold-shrink stretched panel areas to specified contour.
- 61 Mix body filler.
- 62 Shape body filler during curing.
- 63 Rough- and finish-sand cured body filler to contour.
- 64 Explain metal-straightening techniques for aluminum.

Repairing Moveable Glass and Hardware

- 65 Explain procedures to replace window regulators, run channels, glass, power mechanisms, and related controls.
- 66 Repair or replace removable roof panel and hinges, latches, guides, handles, retainer and controls of sunroofs.
- 67 Remove and replace convertible top and related mechanisms.

Practicing Metal Welding and Cutting

- 68 Identify weldable and non-weldable materials used in collision repair.
- 69 Explain procedures for welding high-strength steel and other steels.
- 70 Explain procedures for welding aluminum.
- 71 Identify the components of a GMAW (MIG) welder.
- 72 Set up the GMAW (MIG) welder.
- 73 Identify high-pressure gas cylinder safety procedures.

- 74 Explain the various position welds.
- 75 Protect adjacent panels, glass, and vehicle interior from welding and cutting operations.
- 76 Protect computers and other electronic control modules during welding procedures.
- 77 Prepare the metal to be welded.
- 78 Determine the joint type for various types of welds.
- 79 Determine the type of weld for each specific welding operation.
- 80 Perform continuous, stitch, tack, plug, and butt welds with and without backing, and fillet.
- 81 Perform destructive tests on each weld type.
- 82 Identify the causes of various welding defects.
- 83 Perform cutting operation for various materials and locations.
- 84 Identify different methods of attaching non-structural components.

Working with Plastics and Adhesives

- 85 Identify the types of plastics and their potential for repair.
- 86 Identify the types of plastic repair procedures.
- 87 Replace or repair rigid, semi-rigid and flexible plastic panels.
- 88 Remove or repair damaged areas from rigid exterior composite panels.

Preparing for a Career in Auto Body Repair

- 89 Research opportunities in the auto body repair field.
- 90 Prepare portfolio of current skills.
- 91 Identify the basic construction of the auto body.
- 92 Identify additional ASE (Automotive Service Excellence) and other industry-recognized areas of certification.
- 93 Create a written estimate of repairs.

Local Competencies

Practicing Safety

- 94 Demonstrate precautions with hazardous operations and materials according to federal, state, and local regulations.
- 95 Identify personal health hazards and related safety measures, according to OSHA guidelines and the right-to-know laws.
- 96 Inspect spray environment.
- 97 Use the NIOSH-approved personal sanding respirator.
- 98 Use the NIOSH-approved personal painting/refinishing respirator system.
- 99 Use personal safety equipment.

Measurement and Mixing

- 100 Read a rule, fractional – inch and metric
- 101 Solve auto body – related problems involving volume and ratios.

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For further information please call (757) 263-1070.

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To seek resolution of grievances resulting from alleged discrimination or to report violations of these policies, please contact the Title VI/Title IX Coordinator/Director of Student Leadership at (757) 263-2020, 1413 Laskin Road, Virginia Beach, Virginia, 23451 (for student complaints) or the Section 504/ADA Coordinator/Chief Human Resources Officer at (757) 263-1133, 2512 George Mason Drive, Municipal Center, Building 6, Virginia Beach, Virginia, 23456 (for employees or other citizens). Concerns about the application of Section 504 of the Rehabilitation Act should be addressed to the Section 504 Coordinator/ Executive Director of Student Support Services at (757) 263-1980, 2512 George Mason Drive, Virginia Beach, Virginia, 23456 or the Section 504 Coordinator at the student's school. For students who are eligible or suspected of being eligible for special education or related services under IDEA, please contact the Office of Programs for Exceptional Children at (757) 263-2400, Laskin Road Annex, 1413 Laskin Road, Virginia Beach, Virginia, 23451.

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