# Scope & Sequence

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| Course Name: Basic Collision Repair and Refinishing **TSDS PEIMS Code:** 13039750 | | | **Course Credit:** 1.0  **Course Requirements:** Recommended Grade Placement: 9 – 12.  **Prerequisites:** None. |
| **Course Description:** Basic Collision Repair and Refinishing includes knowledge of the processes, technologies, and materials used in the reconstruction of vehicles. This course is designed to teach the concepts and theory of systems related to automotive collision repair and refinishing. | | | |
| **NOTE:** This is a suggested scope and sequence for the course content. This content will work with any textbook or instructional materials. If locally adapted, make sure all TEKS are covered. | | | |
| **Total Number of Periods**  **Total Number of Minutes**  **Total Number of Hours** | 175 Periods  7875 Minutes  131.25 Hours\* | \*Schedule calculations based on 175/180 calendar days. For 0.5 credit courses, schedule is calculated out of 88/90 days. Scope and sequence allows additional time for guest speakers, student presentations, field trips, remediation, extended learning activities, etc. | |
| **Unit Number, Title, and Brief Description** | **# of Class Periods\***  (assumes 45-minute periods)  Total minutes per unit | **TEKS Covered**  **130.445. (c) Knowledge and skills** | |
| **Unit 1: Career Exploration**  Students will identify employment and entrepreneurship opportunities in the fields of automotive collision repair and refinishing. Students will be encouraged to discover and use resources available through CTSO or other extracurricular organization(s) to further develop leadership and employability skills. Students will discuss and demonstrate appropriate and effective group participation, leadership, teamwork, and good citizenship in this and in all units as they develop personal and career goals and increase their interpersonal skills. Students will explore and discuss industry certification opportunities and requirements, and include relevant information as they develop their plans for future career opportunities. | 8 periods  360 minutes | (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (B) identify employment opportunities, including entrepreneurship opportunities, and certification requirements for the fields of collision repair and refinishing; and  (C) review the principles of group participation and leadership related to citizenship and career preparation. | |
| **Unit 2: Health and Safety**  Students will discuss and identify employers’ expectations regarding safe and appropriate work habits, ethical conduct, and environmental responsibilities in the fields of automotive collision repair and refinishing. Students will participate as a class and/or in small groups to model, present, and discuss various workplace safety scenarios and situations where decisions must be made. | 15 periods  675 minutes | (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (A) demonstrate awareness of workplace safety and environmental responsibilities in automotive collision and refinishing and understand the use of personal protective equipment;  (C) review the principles of group participation and leadership related to citizenship and career preparation;  (D) identify employers' expectations and appropriate work habits;  (F) apply reasoning skills to a variety of workplace situations in order to make ethical decisions. | |
| **Unit 3: Academics in Automotive Collision and Repair**  Students will explore, discuss, and describe resources, information systems and technology related to the fields of automotive collision repair and refinishing. Students will be given multiple opportunities to describe, demonstrate and apply relevant problem-solving, reading, writing, and mathematical skills in-context as they read and interpret service and repair information, technical bulletins, specifications, schematics, and parts catalogs from a variety of sources. Students will discuss and predict what academic skills will be necessary for a successful career in the fields of automotive collision repair and refinishing. | 20 periods  900 minutes | (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (E) review the competencies related to resources, information systems, and technology.  (2) The student relates core academic skills to the requirements of collision repair and refinishing technology. The student is expected to:  (A) apply effective oral and written communication skills with individuals from various cultures such as fellow workers, management, and customers;  (B) use technical writing skills to complete collision repair and refinishing orders and related paperwork; and  (C) locate and read documents such as service and repair information, technical bulletins, specifications, schematics, and parts catalogs. | |
| **Unit 4: Tools, Equipment, and Materials**  Students will discuss the basic function and application of tools, equipment, and materials used in automotive collision repair and refinishing. Students will be given multiple opportunities for “hands-on” presentations, discussions, and demonstrations of the proper ways to identify and safely use the tools, materials, and equipment commonly used in the fields of automotive collision repair and refinishing, as well as multiple opportunities to identify types of vehicle construction materials and associated repair methods. | 20 periods  900 minutes | (4) The student knows the basic function and application of tools, equipment, technologies, and materials used in collision repair and refinishing services. The student is expected to:  (A) identify hand and power tools and equipment commonly used in collision repair and refinishing.  (5) The student reviews the technical knowledge and skills of collision repair and refinishing. The student is expected to:  (A) demonstrate the safe use of various hand and power tools and equipment commonly used in collision repair and refinishing; and  (B) identify types of vehicle construction materials and associated repair methods. | |
| **Unit 5: Repair and Preparation Procedures**  Students will be given multiple opportunities to demonstrate their understanding of basic types of repair procedures in “hands-on” activities, presentations, discussions, and inspections in simulated or actual automotive collision repair and refinishing work situations. Students will also be given multiple “hands-on” opportunities to demonstrate their understanding of basic preparation, application, and refinishing with various paint products. | 20 periods  900 minutes | (3) The student understands the technical knowledge and skills of basic collision repair and refinishing systems. The student is expected to:  (A) demonstrate an understanding of basic types of repair procedures used in the auto collision industry; and  (B) demonstrate an understanding of basic preparation, application, and refinishing with various paint products. | |
| **Unit 6: Welding and Hazardous Materials**  Students will discuss the rules for proper handling and disposal of hazardous materials used in collision repair and refinishing technologies. Students will continue to be given multiple opportunities for “hands-on” presentations, discussions, and demonstrations of the proper ways to identify and safely use the tools, materials, and equipment commonly used in the fields of automotive collision repair and refinishing as well as to identify proper welding and cutting techniques and processes. | 15 periods  675 minutes | (4) The student knows the basic function and application of tools, equipment, technologies, and materials used in collision repair and refinishing services. The student is expected to:  (A) identify hand and power tools and equipment commonly used in collision repair and refinishing;  (B) identify proper welding and cutting techniques and processes used in collision repair;  (C) identify environmentally hazardous materials and appropriate handling methods used in collision repair and refinishing technologies. | |
| **Unit 7: Repair and Refinish**  Students will continue to be given multiple opportunities to demonstrate the safe and appropriate use of various tools and procedures with “hands-on” activities, demonstrations, presentations, discussions, and inspections. Some or all of the opportunities will be given in simulated or actual automotive technology work situations. Students will also explain and safely demonstrate hammer and dolly techniques, refinishing preparations and procedures, and repairs. | 20 periods  900 minutes | (5) The student reviews the technical knowledge and skills of collision repair and refinishing. The student is expected to:  (A) demonstrate the safe use of various hand and power tools and equipment commonly used in collision repair and refinishing;  (B) identify types of vehicle construction materials and associated repair methods;  (C) remove paint from the damaged area of a body panel;  (D) identify and repair surface irregularities on a damaged body panel;  (E) demonstrate hammer and dolly techniques for dent repair;  (F) prepare damaged area using water-based and solvent-based cleaners;  (G) identify, prepare, and apply body filler; and  (H) rough sand body filler to contour panel and finish sand for the application of primer. | |
| **Unit 8: Painting and Refinishing**  Students will be given multiple opportunities to practice and demonstrate the proper preparation, application, and refinishing with various paint products in “hands-on” activities, demonstrations, presentations, and discussions. Students will perform these activities as well as sanding, buffing, polishing, inspecting, and removing defects in simulated or actual automotive technology work situations. | 20 periods  900 minutes | (5) The student reviews the technical knowledge and skills of collision repair and refinishing. The student is expected to:  (I) demonstrate the proper preparation, application, and refinishing of various paint products;  (J) apply finish using appropriate spray techniques such as gun arc, angle, distance, travel speed, and spray pattern overlap for the finish being applied;  (K) apply basecoat and clear coat for overall refinishing; and  (L) sand, buff, and polish fresh or existing finish to remove defects as required. | |
| **Unit 9: Parts and Paperwork**  Students will be given multiple opportunities to learn and demonstrate the procedures for estimating parts and labor costs on collision repair and refinishing orders in simulated and/or actual work situations.  Students will also identify and apply the preparation, technical writing, and mathematical skills necessary to complete paperwork associated with various customer service scenarios in automotive collision repair and refinishing services. | 20 periods  900 minutes | 1. The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:   (F) apply reasoning skills to a variety of workplace situations in order to make ethical decisions.  (2) The student relates core academic skills to the requirements of collision repair and refinishing technology. The student is expected to:  (A) apply effective oral and written communication skills with individuals from various cultures such as fellow workers, management, and customers;  (B) use technical writing skills to complete collision repair and refinishing orders and related paperwork; and  (C) locate and read documents such as service and repair information, technical bulletins, specifications, schematics, and parts catalogs.  (3) The student understands the technical knowledge and skills of basic collision repair and refinishing systems. The student is expected to:  (C) estimate parts and labor costs on collision repair and refinishing orders. | |
| **Unit 10: Automotive Collision Repair Career Activities**  Students will participate in course culminating automotive collision repair and refinishing career activities which are to include a written plan to earn industry-recognized certification and/or to begin a successful career in automotive collision repair and refinishing services or related field as well as a discussion and/or presentation about emerging technologies and future developments and opportunities in the field.  Students will also participate in mock job interviews both as applicants and as potential employers, and create and/or participate in various workplace scenarios that demonstrate appropriate workplace safety and conduct, employer expectations, and interactions with colleagues and customers. As part of these interviews and scenarios, students will demonstrate appropriate personal appearance and hygiene, group participation, teamwork, and effective communication skills. | 17 periods  765 minutes | (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:  (A) demonstrate awareness of workplace safety and environmental responsibilities in automotive collision and refinishing and understand the use of personal protective equipment;  (B) identify employment opportunities, including entrepreneurship opportunities, and certification requirements for the fields of collision repair and refinishing;  (C) review the principles of group participation and leadership related to citizenship and career preparation;  (D) identify employers' expectations and appropriate work habits;  (E) review the competencies related to resources, information systems, and technology; and  (F) apply reasoning skills to a variety of workplace situations in order to make ethical decisions.  (4) The student knows the basic function and application of tools, equipment, technologies, and materials used in collision repair and refinishing services. The student is expected to:  (D) demonstrate awareness of new and emerging collision repair and refinishing technologies. | |