

Colorado CTE Course – Scope and Sequence

Course Name	Sport Vehicle Technology III		Course Details	Credit = 2.0	
			Course = 0.50 Carnegie Unit Credit	Prerequisite: Sport Vehicle Technology II	
				CTE Credential: CTE Transportation	
Course Description	Sport Vehicle Repair Technology III is a continuation of Sport Vehicle Repair Technology II. This course is designed to expose the students to a variety of vehicles. Students will expand previous skills into a complete vehicle system. Motorcycle and ATV Lawn equipment and other vehicles will be repaired and maintained. Students will also participate in shop operations which include customer relations, parts and labor accountability. Students will review an overview of employment possibilities in the sport vehicle repair industry.				
Note:	This is a suggested scope and sequence for the course content. The content will work with any textbook or instructional resource. If locally adapted, make sure all essential knowledge and skills are covered.				
SCED Identification #	20102	Schedule calculation based on 60 calendar days of a 90-day semester. Scope and sequence allows for additional time for guest speakers, student presentations, field trips, remediation, or other content topics.			
All courses taught in an approved CTE program must include Essential Skills embedded into the course content. The Essential Skills Framework for this course can be found at https://www.cde.state.co.us/standardsandinstruction/essentialskills					
Instructional Unit Topic	Suggested Length of Instruction	CTE or Academic Standard Alignment	Competency / Performance Indicator	Outcome / Measurement	CTSO Integration
Safety and Industry Practices		<p>Understand personal safety and environmental practices in accordance with OSHA safety regulations.</p> <p>Identify employers' expectations regarding safe and appropriate work habits, ethical conduct, and environmental responsibilities in the fields of automotive service.</p>	<p>Understand and identify work standards for the Sport Vehicle Industry. Student is expected to:</p> <p>A) Identify procedures to ensure compliance with personal and environmental safety practices associated with clothing; respiratory protection; eye protection; hand tools; power equipment; proper</p>	<p>Student demonstrates safe employment shop practices:</p> <ul style="list-style-type: none"> Identifies general shop safety rules and procedures. Utilizes safe procedures for handling of tools and equipment. Utilizes proper ventilation procedures for working within the lab/shop area. 	

		<p>Understand and identify work standards for the Sport Vehicle Industry.</p>	<p>ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental practices;</p> <p>B) Identify various sport vehicle types and the characteristics of each as it pertains to the repair and service process;</p> <p>C) Identify major structural and non-structural components, sections, and assemblies of various types of sport vehicles;</p> <p>D) Interpret Vehicle Identification Number (VIN) plate;</p> <p>E) Identify common hand tools used in the sport vehicle repair industry;</p> <p>F) Identify various pneumatic, electric and hydraulic tools and equipment used in the sport vehicle repair industry;</p> <p>G) List various job titles and identify specific areas of employment within the sport vehicle repair industry, and</p>	<p>Demonstrate appropriate industry working practices for verification of VIN numbers and use of standard documentation and repair tools, equipment, and processes.</p> <p>Demonstrate understanding of industry certification requirements and how those are used locally for employment hiring and advancement.</p>	
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			<p>describe the working environment;</p> <p>H) Determine the demand for entry-level technicians, and list skills employers expect of entry-level technicians and</p> <p>I) Determine the amount of training and education necessary to enter into the sport vehicle repair industry, and the requirements for becoming manufacture certified.</p>		
Drive System		<p>Understand and apply advanced knowledge of sport vehicle drive systems for repair and service.</p>	<p>Understand and apply advanced knowledge of sport vehicle drive systems for repair and service. Student is expected to:</p> <p>A) Identify and diagram several transmission types including special features;</p> <p>B) Demonstrate understanding of transmission operation and gear ratio selection using mathematical equations;</p> <p>C) Perform various transmission repair procedures as applicable; and</p>		

			D) Demonstrate understanding of clutch systems through disassembly and re-assembly in a variety of vehicles.		
Advanced Engines		Understand and apply advanced knowledge of sport vehicle engines for repair and service.	Understand and apply advanced knowledge of sport vehicle engines for repair and service. Student is expected to: <ul style="list-style-type: none"> A) Inspect and determine condition of four-stroke engine components and repair procedures; B) Disassemble and re-assemble four-stroke engines and related assemblies; and C) Identify newly designed engines that meet current EPA regulations. 		
Advanced Fuel		Understand and apply advanced knowledge of sport vehicle fuel systems for repair and service.	Understand and apply advanced knowledge of sport vehicle fuel delivery systems for repair and service. Student is expected to: <ul style="list-style-type: none"> A) Demonstrate an understanding of basic fuel system functions; 		

			<ul style="list-style-type: none"> B) Identify fuel filters, carburetors, and electronic-controlled injection systems; C) Evaluate bench tests and install various types of fuel pumps and filters; D) Apply basic diagnostic service procedures; E) Perform minor repair projects; F) Diagnose and test electronic fuel, hybrid and ignition control systems; and G) Perform major maintenance projects. 		
<p>Brakes and Suspension</p>		<p>Understand and apply advanced knowledge of sport vehicle brake and suspension systems for repair and service.</p>	<p>Understand and apply advanced knowledge of sport vehicle brake and suspension systems for repair and service. Student is expected to:</p> <ul style="list-style-type: none"> A) Identify and diagram a minimum of four frame types, including special features; B) Identify and demonstrate appropriate procedures used to 		

			<p>inspect and repair power vehicle frames;</p> <p>C) Identify and diagram telescopic fork components, including special features;</p> <p>D) Demonstrate ability to inspect suspension systems for flaws and damage;</p> <p>E) Identify appropriate procedures used to inspect and repair suspension systems;</p> <p>F) Identify various power vehicle tire and wheel designs, their correct application, and replacement or repair;</p> <p>G) Demonstrate ability to inspect and replace wheel bearings as needed;</p> <p>H) Identify and diagram a minimum of two brake system types, including special features;</p> <p>I) Identify various braking systems, including emergency brakes, Electronic Brake</p>		
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			<p>Force Distribution (EBD), ABS, and electronic stability control systems; and</p> <p>J) Demonstrate ability to inspect brake systems for damage/wear and repair as needed.</p>		
General Service		<p>Demonstrate general service and repair techniques for sport vehicles.</p>	<p>Demonstrate general service and repair techniques for sport vehicles. Student is expected to:</p> <ul style="list-style-type: none"> (A) Demonstrate ability to work in a simulated shop situation; (B) Document through written media the repair procedure used in a given instance of repairing Sport Vehicle; (C) Apply appropriate procedures used to inspect a Sport Vehicle before repair procedures are started and after repairs are complete; (D) Justify the inspection and repair technique used in a given instance of repairing a Sport Vehicle; and (E) Build and implement communication skills. 		

