

Colorado CTE Course – Scope and Sequence

Course Name	Introduction to the Trades	Course Details		.5 (middle school- level 1)
		Course = 0.50 Carnegie Unit Credit		
Course Description	This course is an introduction the skills and knowledge learned in the Skills Trades industry. This course introduces safety, measurement basics, 3D printing, hand and power tools, electricity, programming and coding, business concepts, and leadership principles as well as careers for the Skills Trades area.			
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 competencies are covered. Curriculum resources may include: We build it better, Reality Works, etc.			
SCED Identification #		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	CTE or Academic Standard Alignment	Competency / Performance Indicator	Outcome / Measurement	CTSO Integration
Introduction to Careers in Skills Trades		Skills Trades Career Introduction	Identify and introduce careers in the building trades, including, carpentry, mechanical trades, welding, etc.	Use SkillsUSA throughout
			Articulate the educational requirements, typical job duties, occupational outlook of the skills trade's careers	
Important Safety considerations for the Skills Trades		Demonstrate an understanding of the importance of safety in the workplace for the Skills Trades.		
			Understand importance of safety guidelines in the workplace	
			Understand the importance of Personal Protective Equipment and first aid procedures in the workplace.	
			Adopt safety habits appropriate for the classroom workplace.	

				Explain OSHA standards and the requirements of PPE.	
Measurement Basics			Basic measurement skills needed to be successful in various skilled trades careers.		
				Understand metric and standard measurement and their differences	
				Explain common readings for both metric and standard	
Electrical Principles			Understand core electrical principles relevant to electrical wiring.		
				Explain electricity and the history of electricity and its beginnings	
				Summarize core electrical principles of electrical wiring.	
Essential Leadership and teamwork			Demonstrate an understanding of leadership qualities and skills needed to be an effective leader in the workplace.		
				Understand the importance of working in teams.	
				Understand personal teamwork styles.	
				Identify team players	
				Demonstrate leadership skills	
Precision and Accuracy in Manufacturing			Understand the elements of precision and accuracy in manufacturing.	Introduce the need for patents and product security	
				Introduce product development	
				Understand methods of time management	
				Explain the aspects of quality Control	
				Identification of tool inventory	
Design and Fabrication			Introduction into the Product Design Process		

				Introduction into Supply Chain Management	
				Transform CAD Models into 3D Prints	
				Navigate the product Design Process	
				Understanding wholesale vs retail	
				Introduce cost analysis, calculating costs such as shipping.	
Navigating Tools, Fasteners, and Assembly			Understand the tools and fasteners of the Skills Trades		
				Introduce inventory control	
				Utilize Industry Tools	
				Identify key tools, rivets, fasteners, etc. and how to install them.	
				Demonstrate proper use and maintain tools and accessories.	
Electrical and Fiber Optics			Introduce Electrical and Fiber Optics		
				Understand usage of tools for electrical work	
				Describe the sources of electricity	
				Introduce electrical terminology	
				Explain circuits and testing	
				Understand basic electricity and safety	
Circuits, Sensors and Coding			Introduce the basics of circuits, sensors and coding	Introduction to basic coding	
				Understand basic circuits and sensors	
				Explain aspects of troubleshooting problems	
Business /Entrepreneurship			Understands concepts and processes associated with successful entrepreneurial performance.		
				Define entrepreneurship.	

				Identify and analyze characteristics of a successful entrepreneur	
				Identify the reasons for planning in entrepreneurial businesses.	
				Discuss the entrepreneurial discovery processes.	
				Determine opportunities for business creation.	
				Generate ideas for business	
				Determine feasibility of ideas.	
				Determine the major reasons for business failure.	
				Assess global trends and opportunities.	