

Colorado Outdoor Recreational Leadership Course Scope and Sequence

Course Name	Snow Tech		Course Details		
			Course = 0.50 Carnegie Unit Credit		
Course Description					
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 #		Schedule calculation based on 60% of a semester instructional time. 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					
Unit Number, Title and Brief Description	Topics	Competency / Performance Indicator	Outcome / Measurement	CTSO Integration	
Unit 1: Ski/board Fabrication	History of Ski Construction				
	Varieties of Skil construction, materials, and design				
	Ski construction processes				
Unit 2: Alpine Ski/Snowboard Tuning	Base Repair				
	Base Grinding/Maintenance	Structure and Ski Performance			
	Edge Tuning	Side base bevel	Bevel angles and ski performance		
		Polishing			
	Base Cleaning/prep				
	Base Wax	Techniques			
		Temperature changes	Chemical composition of different color waxes		
	Varieties and materials				
Unit 3: Bindings	Machine tuning basics				
	History of ski/snowboard bindings				
	Binding anatomy	Alpine			
		Telemark			
		Alpine Touring			
		Snowboard			
	Binding Function and Adjustment	Forward Pressure			
Retention Settings		DIN/ISO Standards			

			Torque Test	
	Binding Mounting	Equipment Processes	Jigs, Bits, Taps	
Unit 4: Nordic	History			
	Binding systems/norms			
	Tuning	Base Prep and Waxing Binding Mounting		
	Nordic Grooming			
Unit 5: Boot Fitting	Boot History			
	Boot Design and Materials			
	Foot and leg anatomy			
	Boot Fitting Processes	Foot/leg measurements Compatibility Boot Adjustment Procedures		
Unit 6: Adaptive	History of Technological Innovation			
	Equipment Design and Maintenance	Stand	Outriggers	
			Slider	
			Rider Bar	
		Sit	Mono-Ski	
			Bi-Ski	
Unit 7: Snow Industry & Career Exploration	Site Visits	Visually Impaired	Digital guiding system	
		Grooming		
		Snow Making		
		Lift Maintenance		
		Rental/Retail		

Academic Standards Alignment

Colorado CTE courses are required to integrate academic and essential skills into course content. The following academic standards have been identified as aligned to this course and should be integrated throughout instruction.

[CO CTE Academic Standards Resources](#) (Rubrics, integration strategies, etc)

[CDE Colorado Academic Standards Online](#) (Online standards lookup tool)

Reading, Writing, & Communicating

Standard 2: Reading for All Purposes

- Prepared Graduate 4: Read a wide range of informational texts to build knowledge and to better understand the human experience.
 - Students analyze technical information related to ski and snowboard construction, tuning procedures, binding systems, DIN/ISO standards, boot fitting, adaptive equipment, and industry practices to develop technical knowledge and industry skills.

- Prepared Graduate 5: Understand how language functions in different contexts, command a variety of word-learning strategies, and make effective choices for meaning or style when writing and speaking.
 - Students develop and apply specialized vocabulary related to ski and snowboard fabrication, equipment tuning, binding systems, boot fitting, adaptive technologies, and snow industry operations.

Standard 3: Writing and Composition

- Prepared Graduate 7: Craft informational/explanatory texts using techniques specific to the genre.
 - Students document tuning procedures, equipment specifications, binding adjustments, boot fitting processes, and equipment maintenance practices using technical and industry-specific communication formats.

Standard 4: Research Inquiry and Design

- Prepared Graduate 10: Gather information from a variety of sources; analyze and evaluate its quality and relevance; and use it ethically to answer complex questions.
 - Students investigate the history and evolution of ski and snowboard equipment, evaluate materials and technologies used in fabrication and tuning, analyze industry standards and adaptive technologies, and explore career pathways within the snow sports industry.

Note: *Mathematics and Science standards will be added in the future. Visit the [Colorado Academic Standards](#) page for the most current version.*