south dakota DEPARTMENT OF EDUCATION
Learning. Leadership. Service.

Exploring STEM in CTE

Career Cluster	STEM
Course Code	21050
Prerequisite(s)	None
Credit	.5
Program of Study and Sequence	Cluster course for Middle or High school.
Student Organization	None
Coordinating Work-Based Learning	field trips
Industry Certifications	None
Dual Credit or Dual Enrollment	None
Teacher Certification	Architecture & Construction Cluster Endorsement; STEM Cluster Endorsement; 7-12 Technology Education Endorsement
Resources	https://Vimeo.com/67277269

Course Description: This course serves as an introduction to Science, Technology, Engineering and Mathematics (STEM) with primary areas of focus on aviation, energy, engineering, and robotics. It will provide a basic background to allow students to identify interests which may assist students in pathway and course selection at the secondary level.

Program of Study Application

This is a STEM Cluster Course in the STEM Engineering Pathway. It is recommended that the course be preceded by a series of foundation courses followed by additional cluster courses and more specialized pathway courses at the secondary level. These pathways may include courses related to Robotics, Energy, Engineering and Aviation. This course can be taught at the middle or high school level.

Course Standards

Indicator # STEM 1 Understand the components of STEM in CTE		
Webb Level	*Sub-indicator*	*Integrated Content*
Level 2: Skill/Concept	STEM 1.1 Understand the components of STEM in CTE and the impact of STEM on society	
Level 3: Strategic Thinking	STEM 1.2 Explore the impact of STEM in CTE related careers	
Indicator # STEM 2 Understand how Science relates to STEM in CTE		
Webb Level	*Sub-indicator*	*Integrated Content*
Level 2: Skill/Concept	STEM 2.1 Understand scientific terminology as it applies to STEM in CTE	
Level 2: Skill/Concept	STEM 2.2 Apply scientific concepts as they relate to STEM in CTE	
Indicator # STEM 3 Understand how Technology relates to STEM in CTE		
Webb Level	*Sub-indicator*	*Integrated Content*
Level 1: Recall	STEM 3.1 Understand technology terminology as it applies to STEM in CTE	
Level 2: Skill/Concept	STEM 3.2 Apply technology concepts as they relate to STEM in CTE	
Indicator # STEM 4 Understand how Engineering relates to STEM in CTE		

Webb Level	*Sub-indicator*	
Level 1: Recall	STEM 4.1 Understand engineering terminology as it applies to STEM in CTE	
Level 2: Skill/Concept	STEM 4.2 Apply engineering concepts as they relate to STEM in CTE	
Indicator # STEM 5 Understand how Mathematics relates to STEM in CTE		
Webb Level	*Sub-indicator*	*Integrated Content*
Level 1: Recall	STEM 5.1 Understand mathematical terminology as it applies to STEM in CTE	
Level 2: Skill/ Concept	STEM 5.2 Apply mathematical concepts as they relate to STEM in CTE	
Level 2: Skill/Concept	STEM 5.3 Understand and apply measurement tools and practices	
Indicator # STEM 6 Understand how technical and soft skills apply to STEM and CTE careers.		
Webb Level	Sub-indicator	*Integrated Content*
Level 2: Skill/ Concept	STEM 6.1 Explore technical skills required for STEM and CTE careers	
Level 2: Skill/ Concept	STEM 6.2 Explore soft skills required for STEM and CTE careers	
Level 2: Skill/ Concept	STEM 6.3 Explore health standards and safety skills in relation to STEM in CTE careers	

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