

Construction Equipment I

Career Cluster	Architecture and Construction
Course Code	17990
Prerequisite(s)	Introduction to Architecture and Construction
Credit	.5 - 1
Program of Study and Sequence	Foundation Courses, Introduction to Architecture and Construction, Construction Trades I, Construction Trades II- Residential, Construction Equipment I, Capstone
Student Organization	SkillsUSA
Coordinating Work-Based Learning	This standard includes Workplace Tours, Service learning and Apprenticeship
Industry Certifications	None
Dual Credit or Dual Enrollment	TBD
Teacher Certification	Architecture & Construction Cluster Endorsement; Construction Pathway Endorsement; Maintenance/Operations Pathway; Construction Trades I Endorsement
Resources	

Course Description:

Construction Equipment I: Students will gain an understanding of safely operating the tools and equipment in the construction trades. Exploration of earth-moving and construction equipment within the context of OSHA and industrial operations standards. Emphasis should be placed on controlling equipment to perform specific operations per industry standards and on basic troubleshooting and maintenance procedures.

Program of Study Application

Construction Equipment I is an intermediate pathway course in the Architecture & Construction career cluster. It can be found in both the Construction and Maintenance/Operations pathways. It is to be preceded by a cluster course and followed by Construction Equipment II and/or a capstone course.

Indicator #CEI 1 Orientation to the Trade

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
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Level 1: Recall	CEI 1.1 Explain the basic terminology, types, and uses of equipment	
Level 1: Recall	CEI 1.2 Identify career opportunities available to construction equipment operators and explain the purpose and objectives of an apprentice training program	
Level 1: Recall	CEI 1.3 Explain the responsibilities and characteristics of a good operator	
Level 2: Skill/Concept	CEI 1.4 Explain the importance of construction equipment safety	
Level 1: Recall	CEI 1.5 Describe preventive maintenance procedures	

Indicator #CEI 2: Construction Equipment Safety

Webb Level	Sub-indicator	Integrated Content
Level 1: Recall	CEI 2.1 Explain the importance of safety when working with construction equipment	
Level 1: Recall	CEI 2.2 State the purpose of signs, tags, barricades, and lockout/tagout devices used on construction sites	
Level 1: Recall	CEI 2.3 Describe the long- and short-term health effects, first-aid measures, handling, and storage, and/or required personal protective equipment (PPE)	
Level 1: Recall	CEI 2.4 Identify safeguards used in a highway construction work zone	
Level 1: Recall	CEI 2.5 State the general guidelines for a safe operation, maintenance, and transportations of construction equipment	
Level 1: Recall	CEI 2.6 Explain the dangers of working around an excavation area with construction equipment	
Level 1: Recall	CEI 2.7 Describe the importance of Safety Data Sheets (SDS)	

Indicator # CEI 3: FORKLIFTS-Students understand and perform, where possible, lifting, transporting, and placement forklift operations with a focus on safety.

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 1: Recall	CEI 3.1 Identify the components of forklifts	
Level 1: Recall	CEI 3.2 Explain the operations of various components	
Level 2: Skill/Concept	CEI 3.3 Describe preventive maintenance procedures	
Level 1: Recall	CEI 3.4 Describe startup and operating procedures for forklift	

Indicator #CEI 4: ON-ROAD DUMP TRUCKS-Students understand and perform, where possible, appropriate operations using On-Road Dump Trucks.

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 1: Recall	CEI 4.1 Identify the various types of on-road dump trucks	
Level 1: Recall	CEI 4.2 Identify and describe instruments and specialized control systems in dump trucks	

Level 1: Recall	CEI 4.3 List the operator inspection and maintenance requirements	
Level 1: Recall	CEI 4.4 Explain safe driving practices for dump trucks	
Level 2: Skill/Concept	CEI 4.5 Perform basic operations using a dump truck	

Indicator #CEI 5: SKID STEER-Students understand and perform, where applicable, usage and proper functionality of skid steers.

Webb Level	Sub-indicator	Integrated Content
Level 1: Recall	CEI 5.2 Describe the pre start inspection requirements for skid loader	
Level 1: Recall	CEI 5.3 Describe startup, shutdown, and operations procedures for a skid loader	

Indicator #CEI 6: INTERPRETING CIVIL DRAWINGS-Students read and interpret construction site drawings to perform operations.

Webb Level	Sub-indicator	Integrated Content
Level 2: Skill/Concept	CEI 6.2 Read and interpret drawings	
Level 1: Recall	CEI 6.3 Define common abbreviations	
Level 1: Recall	CEI 6.4 Describe how as-built drawings are prepared	

Indicator #CEI 7:-EQUIPMENT OPERATION-Students understand and perform, where applicable, operations on various pieces of heavy equipment to demonstrate proper startup, shut off, and maintenance procedures for each piece of machinery.

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Level 1: Recall	CEI 7.2 Describe pre start inspection requirements for various pieces of machinery	
Level 1: Recall	CEI 7.3 List task related work activities	