Course Information Form (CIF)

Course Code: LBR 152
Course Title: Bridges

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 49.0202
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 2-2-3
Credit Hour Distribution:

Lecture: 2	Lab: 2	Clinical: 0	**Total: 3**

General Course Information

Catalog Description
Methods of bridge construction, renovation, and demolition for the laborer.

General Course Objectives
Students will understand the role of the laborer in bridge construction, renovation, and demolition.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites
Credit in LBR 131, LBR 133, and LBR 139

Methods of Evaluation
The minimum evaluation methods will include at least 1 written exam and at least 1 practical exam.

Instructional Materials and Additional Supplies
Bridge Construction, Renovation, and Demolition, Laborers Training Fund, 2002.

Course Content

General Learning Outcomes (GLOs)

- Technology: Students will demonstrate the ability to evaluate, select, and appropriately use current and emerging tools.

Course Segments and Student Learning Outcomes

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Personal Protective Equipment (PPE)	1. Describe the rules pertaining to the use of PPE. 2. Explain the various types of PPE. 3. Describe how to inspect and maintain PPE. 4. Explain why working over water is different. 5. Demonstrate how to use PPE.	2	2	0
Electrical Safety	1. List some common OSHA citations. 2. Name the general requirements for electrical safety. 3. Explain testing and inspection of electrical systems. 4. Describe special problems with overhead lines and unqualified persons. 5. Explain electrical safety considerations in reference to vehicles and other mechanical equipment. 6. Describe illumination needed to ensure electrical safety.	2	2	0
Excavation Safety	1. Name the local Utility Location Service. 2. List the responsibilities of an excavator. 3. Describe surface markings near excavations. 4. Describe the processes of probing and holing. 5. Name OSHA excavation requirements. 6. Explain what to do about water accumulation. 7. Describe how to handle adjacent structures and loose soil and rock. 8. Name what inspections are done. 9. Identify protective systems used in excavations. 10. Identify different soils and describe problems excavating in them. 11. Demonstrate safe excavation.	3	3	0
Permit Required Confined (PRC) Space	1. Define PRCs. 2. List requirements when working with PRCs. 3. Describe how to test, monitor, and control hazardous atmospheres. 4. Describe the physical hazards found in bridge work. 5. Explain how to minimize physical hazards. 6. Show how to monitor hazardous atmospheres.	2	2	0
Lead Abatement on Bridges and Steel Structures	1. Identify some lead exposures in the environment. 2. Describe possible occupational lead exposures. 3. Explain the health effects of lead exposure. 4. Describe the types of medical testing and treatment for lead exposure.	2	2	0
Silica	1. Name activities which produce silica dust. 2. Describe ways to prevent silicosis. 3. List the National Institute for Occupational Safety and Health (NIOSH) and Occupational Safety and Health Administration (OSHA) rules and regulations. 4. Describe some silica substitutes. 5. Explain and demonstrate some ways of controlling silica exposure.	2	2	0
Scaffold Safety	1. Identify different types of scaffolding. 2. Describe OSHA rules for scaffolding. 3. Build several types of scaffold systems.	3	3	0

Course Segment	Learning Outcomes	Lecture Hours	Lab Hours	Clinical Hours
Hoisting and Rigging	1. Explain the standards for hoisting and rigging. 2. List the rules for safety around cranes. 3. Explain and demonstrate the hand signals used with cranes. 4. Demonstrate safety hoisting and rigging.	3	3	0
Hand and Power Tool Safety	1. Describe how to safely use tools commonly used in construction. 2. Name the most common OSHA citations. 3. Describe the OSHA general requirements for tool safety. 4. Demonstrate the safe use of hand and power tools.	2	2	0
Oxyfuel Cutting Operations	1. Describe the equipment used for cutting. 2. Name the PPE which should be used when cutting with oxyfuel. 3. Describe the means of protection from fire. 4. Explain how to keep oxyfuel tanks safe. 5. Demonstrate proper technique while cutting with oxyfuel.	3	3	0
Sandblasting	1. List the equipment used in sandblasting. 2. Name and identify PPE. 3. Demonstrate proper procedures while sandblasting.	1	1	0
Hazard Communication	1. Name the OSHA requirements for hazard communication. 2. State what information can be obtained from a Material Safety Data Sheet (MSDS).	1	1	0
Fall Protection	1. Describe the OSHA regulations concerning falls. 2. Match terms and definitions. 3. Explain the various fall protection systems and demonstrate each. 4. Describe the training requirements for fall prevention.	3	3	0
Exams	1. Demonstrate understanding and practical knowledge of subject matter by successfully passing exams.	1	1	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
30	30	0