Course Information Form (CIF)

Course Code: LBR 150

Course Title: Basic Construction Surveying

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 15.1102
Repeatability: 0

Effective Date: Summer 2026

Credit Hours

Catalog Notation: 1-2-2
Credit Hour Distribution:

Lecture: 1	Lab: 2	Clinical: 0	**Total: 2**

General Course Information

Catalog Description

Basic instrument methods and computations for leveling applications and site-work construction layouts; level circuits, slope staking, baselines and offsets, building and utility layouts.

General Course Objectives

Students will demonstrate basic proficiency in making elevation and angular measurements, and in performing appropriate construction layout computations using those measurements.

Minimum Placement Levels

English	Reading	Math
None	None	None

Prerequisites

Admission into the Laborers Apprenticeship program

Methods of Evaluation

The mininum evaluation methods include 2 lab exercises and 2 written exams.

Instructional Materials and Additional Supplies

Laborers Training Fund, Modules 2007.

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
Level Circuits	1. Use an optical level to measure elevation differences. 2. Compute elevation survey results and identify errors.	4	8	0
Slope Staking	1. Interpret construction plans and extract earth slope construction layout data. 2. Read slope stakes in the field. 3. Perform appropriate grade checking measurements.	3	6	0
Baselines and Offsets	1. Lay out a baseline using a theodolite. 2. Measure offsets for layout and mapping tasks.	4	8	0
Building and Utility Layout	1. Compute layout distances, cuts and fills, and slopes for construction of buildings and utility systems. 2. Troubleshoot erroneous layout data in the field.	4	8	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
15	30	0