Course Information Form (CIF)

Course Code: CCA 114
Course Title: Concrete I

Department: Applied Sciences and Technologies
PCS Code: 1.2 - Occupational/Technical Instruction
CIP Code: 46.0201
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

Working knowledge of surveying for carpenters. Emphasizes location, layout and basic operation of the builder's level. Theory and application of concrete form systems. Materials used in concrete applications.

General Course Objectives

Students will develop working knowledge of surveying with emphasis on location, layout, and basic operation of the builder's level; theory and application of concrete form systems; and materials used in concrete application.

Minimum Placement Levels

English	Reading	Math
Placement out of ENG 098	Placement out of CCS 098	Placement into MAT 060

Prerequisites

Credit in CCA 111, CCA 112, and CCA 113

Methods of Evaluation

The minimum methods of evaluation include: 4 written exams, quizzes, lab exercises, 1 final written exam, and practical exams.

Instructional Materials and Additional Supplies

Carpentry, Units 33, 34, 35, 36, 37, 38, and 39. Koel, Leonard (2009). Homewood, Illinois: American Technical Publishers.

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
Leveling Equipment	1. Identify leveling instruments, tripods, and leveling rods. 2. Demonstrate proper procedure to set up tripods and levels. 3. Demonstrate proper techniques by keeping field notes. 4. Demonstrate skills in proper storage, transport, and care of instruments.	5	10	0
Practical Applications for Leveling Equipment	1. Read elevations of designated points around a building. 2. List items of information found on a plot plan. 3. Explain procedures to locate building corners. 4. Use leveling terminology appropriately in verbal and written communication. 5. Describe the different types of footings, including footing forms, methods of constructing forms, effect of types of soil, and how to calculate amount of concrete. 6. Describe factors affecting design of concrete forms. 7. Describe and demonstrate various methods of constructing, aligning, and setting column forms. 8. List causes of form failure. 9. Identify, describe, and demonstrate various anchor bolts. 10. List and describe various types of joints used in concrete. 11. Describe steel reinforcement and how it is used in concrete. 12. Estimate the materials needed for various types of concrete projects.	5	10	0
Concrete	1. Describe the fundamentals of concrete. 2. Name the various types of cement. 3. Explain aggregates. 4. Explain methods of transporting concrete. 5. Discuss curing.	3	10	0
Exams	1. Successfully complete required exams.	2	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
15	30	0