

Course Code: CCA 214

Course Title: Concrete II

Department: Applied Sciences and Technologies

Effective Date: Summer 2026

PCS Code: 1.2 - Occupational/Technical Instruction

CIP Code: 46.0201

Repeatability: 0

Credit Hours

Catalog Notation: 1-3-2

Credit Hour Distribution:

Lecture: 1

Lab: 3

Clinical: 0

Total: 2

General Course Information

Catalog Description

Theory and concepts of construction of bridges, stairs, and overhead concrete form systems.

General Course Objectives

Students will be able to explain the theory of and construct a concrete bridge, concrete stairs, and overhead concrete form systems.

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 and CCA 212

Methods of Evaluation

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

Instructional Materials and Additional Supplies

Carpentry, Units 40, 67, 68, and 70. 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
Bridge Forms	1. Identify the parts of a bridge deck form. 2. Name methods of supporting deck forms. 3. Name various bridges that use reinforced concrete slabs. 4. Calculate the amount of concrete needed for various bridges. 5. Demonstrate the ability to construct and strip forms for a bridge deck.	5	15	0
Stair Forms	1. Identify parts of a stair form. 2. State rules for unit rise and unit run. 3. Calculate the number and size of stair risers and treads for various stairwells. 4. Demonstrate the ability to form-up for a set of concrete steps.	4	15	0
Overhead Concrete Form Systems	1. List factors that influence column form design. 2. Identify column shapes. 3. Name common types of materials used for column forms and beam forms. 4. Identify types of clamps or yokes used on column forms. 5. Identify parts of a beam form. 6. Identify parts of a slab forming system. 7. Identify types of forming systems used for concrete slabs. 8. Select materials used to manufacture pans and domes. 9. List types of materials used to form concealed voids and ducts in concrete. 10. Identify various types of metal scaffold and parts to form-up various types of overhead concrete slabs. 11. Demonstrate the ability to complete a deck form and spandrel beam. 12. Demonstrate proper attitudes about health and safety. 13. Use appropriate terminology for concrete construction in verbal and written communications.	4	15	0
Exams	1. Successfully complete all required exams.	2	0	0

Total Contact Hours

Lecture Hours	Lab Hours	Clinical Hours
15	45	0