

Course Outline

COURSE: CARP 207 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Fall 2016 **Inactive Course**

SHORT TITLE: CONCRETE FORMWORK

LONG TITLE: Concrete Formwork

<u>Units</u>	<u>Number of Weeks</u>	<u>Type</u>	<u>Contact Hours/Week</u>	<u>Total Contact Hours</u>
1	1	Lecture:	6	6
		Lab:	30	30
		Other:	0	0
		Total:	36	36

COURSE DESCRIPTION:

This course covers planning and building of form work, construction and erection of various concrete forms, and construction materials and methods.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: C - Credit - Degree Non Applicable

GRADING MODES

L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion

03 - Lecture/Laboratory

04 - Laboratory/Studio/Activity

STUDENT LEARNING OUTCOMES:

1. The student will plan, construct, erect, and dismantle a single waler wall form in a safe manner.

Measure: Written Exams, Class Performance

PLO: 1

ILO: 1, 2, 3, 7

GE-LO:

Year assessed or anticipated year of assessment: 2012-13

2. The student will plan, construct, erect, and dismantle a concrete stair form in a safe manner.

Measure: Quizzes, Written Exams, Class Performance

PLO: 1

ILO: 1, 2, 3, 7

GE-LO:

Year assessed or anticipated year of assessment: 2012-13

PROGRAM LEARNING OUTCOMES:

1. Demonstrate journey level skills, including those skills necessary to build all concrete infrastructures that comprise the California transportation system.

2. Locate on the blueprints and in the specifications, the information needed to construct various types of structures and assemble its various components.

3. Perform horizontal layout and vertical layout of wood framed wall components. Install interior and exterior trims and moldings. Construct various types of roofs and stairs.

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Inactive Course: 11/28/2016

Out-of class assignments: For each topic, the student will read chapters and do homework assignments at the end of those chapters.

2 lec/10 lab hours

A. Forms for concrete

B. Materials and components

C. Form construction planning for efficiency and safety

SLO: The student will identify and evaluate the common types of form material and hardware used in concrete form construction.

D. Concrete calculations

E. Loads created by concrete pressure

SLO: The student will analyze and calculate the use and loads of concrete.

F. Single waler forms

1. Components

2. Ties and hardware

3. Bulkheads

SLO: The student will plan, construct, erect, and dismantle a single waler wall form in a safe manner.

Assignments: Read the chapters covered in the lecture and do the homework exercises at the end of the chapters. Answer the study guide questions on the assigned subject.

Identify the common types of form material and hardware used in concrete form construction.

G. Bucks and blockouts

1. Purpose

2. Important factors in buck and blockout construction

3. Door and window buck construction

4. Blockout construction

5. Blockout stripping

SLO: The student will construct, install, and dismantle a blockout.

mid-term test

Assignments: Read the chapters covered in the lecture and do the homework exercises at the end of the chapters. Answer the study guide questions on the assigned subject.

Describe the purposed of bucks and blockouts. Construct, install, and dismantle a blockout.

2 lec/10 lab hours

H. Double waler forming systems

1. Components
2. Form ties
3. Bulkheads

SLO: The student will plan, construct, erect, and dismantle a double waler wall form in a safe manner.

- I. Pilaster forms
- J. Form erection procedures
- K. Safety in panel construction and erection
- L. Prefabricated forms
- M. Gang forms
- N. Foundation forms
 1. Piles
 2. Caissons

SLO: The student will plan and build a form to a standard form detail.

- O. Construction joints and control joints
- P. Columns, girders, beams and floor slabs
- Q. Vertical shoring

Assignments: Read the chapters covered in the lecture and do the homework exercises at the end of the chapters. Answer the study guide questions on the assigned subject.

Plan, construct, erect, and dismantle a single waler wall form in a safe manner. Plan, construct, erect, and dismantle a double waler wall form in a safe manner. Construct a pilaster as part of a wall form.

2 lec/10 lab hours

R. Concrete stair forms

1. Stair terminology
2. Information sources
3. Types
4. Stair layout
5. Form construction
6. Form components
7. Stripping

SLO: The student will plan, construct, erect, and dismantle a concrete stair form in a safe manner.

Assignments: Read the chapters covered in the lecture and do the homework exercises at the end of the chapters. Answer the study guide questions on the assigned subject.

Plan, construct, erect, and dismantle a concrete stair form in a safe manner.

- S. Form stripping
 1. Planning for safety and efficiency
 2. Effect of erection order on stripping operations
 3. Construction joints
 4. Form release agents
 5. Safety is stripping operations

SLO: The student will plan, construct, erect, and dismantle form stripping.

- T. Form detailing
 1. Purpose of the form detail
 2. Information sources

- a. Plans
- b. Specifications
- 3. Detailing procedures

SLO: The student will plan, construct, erect, and dismantle form detailing.

Assignments: Read the chapters covered in the lecture and do the homework exercises at the end of the chapters. Answer the study guide questions on the assigned subject.

Build a form to a standard form detail.

2.0 Hours

Final exam

METHODS OF INSTRUCTION:

- A. Lecture and discussion
- B. Visual aids
- C. Demonstrations
- D. Group hands-on exercise
- E. Individual hands-on exercise
- F. One-on-one hands-on instruction

METHODS OF EVALUATION:

The types of writing assignments required:

Written homework

Reading reports

Lab reports

Essay exams

The problem-solving assignments required:

Homework problems

Field work

Lab reports

Quizzes

Exams

The types of skill demonstrations required:

Class performance

Field work

Performance exams

The types of objective examinations used in the course:

Multiple choice

True/false

Matching items

Completion

Other category:

None

The basis for assigning students grades in the course:

Writing assignments: 5% - 30%

Problem-solving demonstrations: 10% - 30%

Skill demonstrations: 40% - 80%

Objective examinations: 10% - 30%

Other methods of evaluation: 0% - 0%

REPRESENTATIVE TEXTBOOKS:

Required:

Leonard A. Koel, Barclay, CTCNC. Concrete Formwork (current edition), Construction Safety Orders 1 & 2, Form Detailing, Construction and Erection. American Technical Publishers, Thomas West, CTCNC, 2013. Or other appropriate college level text.

Reading level of text, Grade: 10 Verified by: publisher/dvt

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Not Transferable

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department:

CSU Crosswalk Course Number:

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: A

Maximum Hours:

Minimum Hours:

Course Control Number: CCC000500340

Sports/Physical Education Course: N

Taxonomy of Program: 095210