

Course Outline

COURSE: CARP 204 **DIVISION:** 50 **ALSO LISTED AS:**

TERM EFFECTIVE: Fall 2016 **Inactive Course**

SHORT TITLE: FOUNDATIONS AND FLOORS

LONG TITLE: Foundations and Floors

<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 layout, forming, and framing of foundations, joist and sub-flooring construction.

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 organize, locate, and layout a building on a lot as well as form the foundation and frame all sub floor components.

Measure: Quizzes, Exams, reading reports

PLO: 2

ILO: 1, 2, 3, 7

GE-LO:

Year assessed or anticipated year of assessment: 2012-13

2. The student will create calculations for concrete.

Measure: Quizzes, Written Exams

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.

2.0 Lec/10 Lab Hours

A. Residential plot plans

1. Basic plot plan information

2. Grades and elevations

a. Bench marks

b. Finish grades

c. Natural grades and contours

d. Elevations

SLO: The student will organize, locate, and layout a building on a lot.

B. Layout procedures

1. Locate a structure on a piece of property

2. Batter boards

3. Layout for footing excavation

SLO: The student will organize, locate, and build batter boards.

C. Three methods to square a rectangle

1. 3-4-5 method

2. Equal diagonal method

3. Hypotenuse method

SLO: The student will compare and evaluate methods to square a rectangle.

Assignments: Read the chapters covered in the lecture and do the homework exercises at the end of the chapters. Locate and read in the text or online for building plot layout. Given a building footprint and setbacks, locate and orient the building on a plot plan and layout a rectangular building for excavation.

2.0 Lec/10 Lab Hours

D. Residential foundation plans

1. Full basement foundations

2. Crawl space foundations

12/5/2016

3. Walls and footings

SLO: The student will prepare and evaluate residential foundations for use with full basement, crawl space, and footings.

E. Northern California foundations

1. Inverted "T" foundation
2. Grade beam and pier foundations
3. Slab-on-grade foundations
4. Foundations for sloped lot
5. Concrete masonry unit foundations

SLO: The student will prepare and evaluate foundations for sites.

F. Forms for foundation stem walls

1. Plywood panels
2. Stake and board
3. Formwork construction process

SLO: The student will create and organize forms for foundations.

G. Mathematics

1. Volume calculations for concrete
2. Board feet calculations

SLO: The student will create calculations for concrete.

Assignments: Read the chapters covered in the lecture and do the homework exercises at the end of the chapters. Locate and read in the text or online regarding building foundations. Construct the forms for a foundation.

2.0 Lec/10 Lab Hours

H. Concrete

1. Components
2. Factors affecting concrete strength

SLO: The student will prepare, organize, and use concrete.

I. Foundation bolts, seismic hold downs, mudsills, and cripple walls

1. Uniform Building Code
 - a. Foundation bolt requirements
 - b. Cripple wall requirements
2. Structural hardware
 - a. Anchors and hold downs
 - b. Installation specifications
3. Sills
4. Cripple wall framing procedures

SLO: The student will assemble, evaluate, and create foundations.

J. Floor systems

1. Post, beam, and decking
2. Post, beam, sawn lumber joist, and subfloor
3. Engineered floors
 - a. Proprietary truss systems
 - b. Engineered lumber
4. UBC conventional construction requirements
5. Floor joist framing processes

SLO: The student will design, evaluate and create floor systems.

Assignments: Read the chapters covered in the lecture and do the homework exercises at the end of the chapters. Locate and read in the text or online regarding using boards and concrete for a foundation. Use concrete to construct a building foundation and construct the floor system.

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: 0.5% - 20%

Problem-solving demonstrations: 10% - 40%

Skill demonstrations: 30% - 80%

Objective examinations: 0.5% - 30%

Other methods of evaluation: 0% - 0%

REPRESENTATIVE TEXTBOOKS:

Required:

Leonard A. Koel, CTCNC. Carpentry 6th edition, Foundation and Floors. American Technical Publishers, CTCNC, 2013. Or other appropriate college level text.

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

ARTICULATION and CERTIFICATE INFORMATION

12/5/2016

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: CCC000500337
Sports/Physical Education Course: N
Taxonomy of Program: 095210