ACT 323C: CONSTRUCTION FRAMING - CEILINGS & ROOFS LAB

New Course Proposal

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Originator

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Justification / Rationale

Construction is one of the top employment opportunities in the Coachella Valley and with the new Title 24 requirements for Zero Net Energy construction, there is a need for a more educated construction workforce. This course is one of four modules of a non-credit overlay version of ACT 023 Construction Framing Essentials. Module 1 provides the understanding of framing systems and the practical framing techniques used to construct the floor, walls, and roof of a simple structure. Topics include the fundamentals of wood, lumber, fasteners, adhesives, layout, assembly, bracing, sheathing, and truss identification. Modules 2, 3 and 4 are practical labs to demonstrate the ability to construct walls, floors and ceilings and roofs. Providing this non-credit version allows those currently unemployed or underemployed to gain the skills and knowledge required to obtain and succeed in construction jobs; providing the modules as a credit overlay allows students to qualify for credit by exam and move into a credit pathway to continue education. Modules ACT323A, ACT323B and ACT 323C will need to be repeated to qualify for ACT 023 credit by exam.

Effective Term

Fall 2020

Credit Status

Noncredit

Subject

ACT - Applied Construction Technolog

Course Number

323C

Full Course Title

Construction Framing - Ceilings & Roofs Lab

Short Title

CONST FRAMING CEILING

Discipline

Disciplines List
Construction Technology

Modality

Face-to-Face

Catalog Description

This course provides the practical lab required to demonstrate understanding of framing systems and the practical framing techniques used to construct the ceiling and roof of a simple structure. Topics include the fundamentals of wood, lumber, fasteners, adhesives, layout, assembly, bracing, sheathing, and truss identification. Students will demonstrate appropriate use of tools and equipment and awareness of construction safety issues.

Schedule Description

Practical lab to demonstrate understanding of construction framing systems for ceilings and roofs; appropriate use of tools and equipment; awareness of construction safety issues. Prerequisite: ACT 320A and ACT 323 or concurrent enrollment

Non-credit Hours
24

Lecture Units
0

Lecture Semester Hours
0

Lab Units
0

In-class Hours
24

Out-of-class Hours
0

Total Course Units
0

Total Semester Hours
24

Override Description
Noncredit courses do not have lecture and lab. The out of class hours were adjusted to provide the same total as the equivalent credit course.

Prerequisite Course(s)
ACT 320A and ACT 323 or concurrent enrollment

Required Text and Other Instructional Materials

Resource Type
Book

Author
National Center for Construction Education and Research

Title
Construction Technology-Trainee Guide

Edition
4th

City
Gainesville, FL

Publisher
Pearson Prentice Hall

Year
2016

College Level
Yes

Flesch-Kincaid Level
12

ISBN #
0134130391

Resource Type
Instructional Materials

Title
Career Connections Project Book 3

Edition
Most Recent

Publisher
Carpenters International Training Fund

Year
2018

Description
CC0003RG

Class Size Maximum
20

Entrance Skills
Discuss common safety hazards on construction sites.

Requisite Course Objectives
ACT 320A-Discuss common safety hazards on construction sites.

Entrance Skills
Explain the purpose of Occupational Safety and Health Administration (OSHA) and their regulations for the construction industry.

Requisite Course Objectives
ACT 320A-Explain the purpose of Occupational Safety and Health Administration (OSHA) and their regulations for the construction industry.

Entrance Skills
Identify hand and power tools used in the construction industry.

Requisite Course Objectives
ACT 320A-Identify various hand tools used in the construction industry.
ACT 320A-Utilize various hand tools.
ACT 320A-Identify various power tools used in the construction industry.
ACT 320A-Utilize various power tools.

Entrance Skills
Demonstrate proper use of American National Standards Institute (ANSI) hand signals.

Requisite Course Objectives
ACT 320A-Demonstrate proper use of American National Standards Institute (ANSI) hand signals.

Entrance Skills
Demonstrate the ability to interpret information and instructions presented in both written and verbal form.

Requisite Course Objectives
ACT 320A-Demonstrate the ability to interpret information and instructions presented in both written and verbal form.

Entrance Skills
Describe the procedures for laying out ceiling joists.

Requisite Course Objectives
ACT 323-Describe the laying out of ceiling joists.

Entrance Skills
Identify the methods used to calculate the length of a rafter.

Requisite Course Objectives
ACT 323-Explain the methods used to calculate the length of a rafter.

Entrance Skills
Identify the various types of trusses used in roof framing.

Requisite Course Objectives
ACT 323-Identify the various types of trusses used in roof framing.

Entrance Skills
Describe the procedure for estimating the materials required to frame and sheath a roof.

Requisite Course Objectives
ACT 323-Describe the procedure for estimating the materials used in framing and sheathing a roof.

Course Content

1. Overview of framing simple structures.
2. Building working drawings and specifications.
3. Ceiling layout and framing.
4. Estimating ceiling materials.
5. Steel studs in framing.
6. Overview to the types of roofs.
7. Basic roof layout.
8. Installing sheathing.
9. Rafter layout using a speed square.
10. Truss construction.
11. Determining quantities of material.
12. Dormers.
13. Plank-and-beam framing.
14. Metal roof framing.

Course Objectives

	Objectives
Objective 1	Identify the different types of roof framing systems.
Objective 2	Explain roof framing drawings and specifications.
Objective 3	Identify the components of a ceiling layout.
Objective 4	Describe the laying out of ceiling joists.
Objective 5	Describe the procedure for estimating materials required to frame walls and ceilings.
Objective 6	Demonstrate understanding of the terms associated with roof framing.
Objective 7	Identify the roof framing members used in gable and hip roofs.
Objective 8	Explain the methods used to calculate the length of a rafter.
Objective 9	Identify the various types of trusses used in roof framing.

Objective 10	Identify various types of sheathing used in roof construction.
Objective 11	Describe the procedure for estimating the materials used in framing and sheathing a roof.

Student Learning Outcomes

	Upon satisfactory completion of this course, students will be able to:
Outcome 1	Identify the procedure and construction of different types of ceiling and roof framing systems including the various members and fasteners used.
Outcome 2	Construct a simple roof structure structure.

Methods of Instruction

Method	Please provide a description or examples of how each instructional method will be used in this course.
Demonstration, Repetition/Practice	Construct a variety of ceiling and roof sections that meet standards.
Participation	Individual and group particpation in constructing a variety of ceiling and roof sections.
Discussion	Evaluate ceiling and roof sections.
Other (Specify)	Review framing concepts, alternatives and estimation.

Methods of Evaluation

Method	Please provide a description or examples of how each evaluation method will be used in this course.	Type of Assignment
Written homework	Field notes following approved construction management format.	In Class Only
Other	Evaluation of ceiling and roof structures completed during class.	In Class Only
Student participation/contribution	Individual participation in planning, constructing and evaluating ceilng and roof sections.	In Class Only
Group activity participation/observation	Group participation in planning, constructing and evaluating ceiling and roof sections.	In Class Only

Assignments

Other In-class Assignments

1. Plan ceiling and roof construction.
2. Determine materials for ceiling and roof construction.
3. Participate as individual and member of group/team in constructing ceiling and roof sections.
4. Evaluate ceiling and roof sections after construction.

Grade Methods

Pass/No Pass Only

MIS Course Data

CIP Code

46.0412 - Building/Construction Site Management/Manager.

TOP Code

095700 - Civil and Construction Management Technology

SAM Code

C - Clearly Occupational

Basic Skills Status

Not Basic Skills

Prior College Level

Not applicable

Cooperative Work Experience
Not a Coop Course

Course Classification Status
Other Non-credit Enhanced Funding

Approved Special Class
Not special class

Noncredit Category
Short-Term Vocational

Funding Agency Category
Not Applicable

Program Status
Program Applicable

Transfer Status
Not transferable

Allow Audit
No

Repeatability
Yes

Repeatability Limit
NC

Repeat Type
Noncredit

Justification
Noncredit courses are repeatable until students achieve the skills and knowledge required to meet the objectives and outcomes of the course.

Materials Fee
No

Additional Fees?
No

Approvals

Curriculum Committee Approval Date
10/17/2019

Academic Senate Approval Date
10/24/2019

Board of Trustees Approval Date
11/13/2019

Chancellor's Office Approval Date
12/22/2019

Course Control Number
CCC000610833

Programs referencing this course
Construction Technology Framing Carpentry Certificate of Completion (http://catalog.collegeofthedesert.eduundefined?key=279/)