

ACT 323: CONSTRUCTION FRAMING ESSENTIALS

New Course Proposal

Date Submitted: Thu, 12 Sep 2019 21:05:52 GMT

Originator

zbecker

Co-Contributor(s)

Name(s)

Bitanga, Bert

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

323

Full Course Title

Construction Framing Essentials

Short Title

FRAMING ESSENTIALS

Discipline

Disciplines List

Construction Technology

Architecture

Construction Management

Modality

Face-to-Face

100% Online

Catalog Description

This course 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.

Schedule Description

Framing systems and the practical framing techniques used to construct the floor, walls, and roof of a simple structure.

Non-credit Hours

54

Lecture Units

0

Lab Units

0

Lab Semester Hours

0

In-class Hours

18

Out-of-class Hours

36

Total Course Units

0

Total Semester Hours

54

Override Description

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

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

Class Size Maximum

40

Course Content

1. Overview of framing simple structures.
2. Building working drawings and specifications.
3. The floor system.
4. Laying out a Platform floor assembly.
5. Installing joists for projections and cantilevered floors.
6. Estimating the quantity of floor materials.
7. Guidelines for determining proper girder and joist sizes.
8. Components of a wall.
9. Measuring and cutting studs.
10. Laying out, assembling, and erecting a wall.
11. Ceiling layout and framing.
12. Estimating wall and ceiling materials.
13. Steel studs in framing.
14. Overview to the types of roofs.
15. Basic roof layout.
16. Installing sheathing.
17. Rafter layout using a speed square.
18. Truss construction.
19. Determining quantities of material.
20. Dormers.
21. Plank-and-beam framing.
22. Metal roof framing.

Course Objectives

Objectives	
Objective 1	Identify the different types of framing systems.
Objective 2	Outline the different types of framing drawings and specifications.
Objective 3	Identify floor and sill framing and support members.
Objective 4	Identify the methods used to fasten sills to the foundation.
Objective 5	Explain the different types of bridging.
Objective 6	Identify the different types of flooring materials.
Objective 7	Explain the purpose of subflooring and underlayment.
Objective 8	Identify selected fasteners used in floor framing.
Objective 9	Describe the procedure for estimating the amount of material needed to frame a floor assembly.
Objective 10	Identify the components of a wall and ceiling layout.
Objective 11	Describe the procedure for laying out a wood frame wall, including plates, corner posts, door and window openings, partitions, bracing, and firestops.
Objective 12	Describe the correct procedure for assembling and erecting an exterior wall.
Objective 13	Identify the common material and methods used for installing sheathing on walls.
Objective 14	Describe proper bracing for exterior walls.
Objective 15	Explain the use of metal studs in wall framing.
Objective 16	Describe the laying out of ceiling joists.
Objective 17	Describe the procedure for estimating materials required to frame walls and ceilings.
Objective 18	Explain the terms associated with roof framing.
Objective 19	Identify the roof framing members used in gable and hip roofs.
Objective 20	Explain the methods used to calculate the length of a rafter.
Objective 21	Identify the various types of trusses used in roof framing.
Objective 22	Identify various types of sheathing used in roof construction.
Objective 23	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	Outline the procedure for estimating the materials used in wood frame construction.
Outcome 2	Identify the procedure and construction of different types of framing systems including the various members and fasteners used.

Methods of Instruction

Method	Please provide a description or examples of how each instructional method will be used in this course.
Activity	Develop procedures for estimating materials for wall, floor, ceiling, and roof construction.
Participation	Individual and group participation in evaluation of construction options.
Lecture	Introduce topics in context.
Discussion	In class and online evaluation of construction options and methods.
Other (Specify)	Office and site visits

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	Determination of appropriate materials and techniques for constructing walls, floors, ceilings and roofs.	Out of Class Only
Other	Quizzes completed outside of class and discussed in-class.	In and Out of Class
Student participation/contribution	Individual and group participation in evaluation of construction options.	In and Out of Class
Product/project development evaluation	Prepare estimates for materials for wall, floor, ceiling, and roof construction.	Out of Class Only
Group activity participation/observation	Participation in discussion of estimates.	In Class Only
Other	Out-of-class hours will be accounted for electronically through the learning management system.	Out of Class Only

Assignments
Other In-class Assignments

1. Individual projects to develop estimates for wall, floor, ceiling and roof framing.
2. Small group projects to review and evaluate estimates.
3. Discussion of wood framing options including bridging, sheathing, joists, firestops, sills, bracing, corner posts, window openings and roofing designs.

Other Out-of-class Assignments

1. Review questions.
2. Prepare material recommendations and estimates.
3. Short response papers to evaluate estimates and methods.
4. Vocabulary terms.

Grade Methods

Pass/No Pass Only

Distance Education Checklist

Instructional Materials and Resources

If you use any other technologies in addition to the college LMS, what other technologies will you use and how are you ensuring student data security?

Only the college LMS will be used.

Effective Student/Faculty Contact

Which of the following methods of regular, timely, and effective student/faculty contact will be used in this course?

Within Course Management System:

Timely feedback and return of student work as specified in the syllabus
Discussion forums with substantive instructor participation
Regular virtual office hours
Online quizzes and examinations
Video or audio feedback
Weekly announcements

External to Course Management System:

Direct e-mail
Posted audio/video (including YouTube, 3cm mediasolutions, etc.)

Briefly discuss how the selected strategies above will be used to maintain Regular Effective Contact in the course.

Timely feedback and return of student work as specified in the syllabus.
Discussion forums with substantive instructor participation.
Online quizzes and examinations.
Weekly announcements.

Other Information

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

01/10/2020

Course Control Number

CCC000611520

Programs referencing this course

Construction Technology Framing Carpentry Certificate of Completion (<http://catalog.collegeofthedesert.eduundefined?key=279/>)
Construction Technology Career Preparation Certificate of Completion (<http://catalog.collegeofthedesert.eduundefined?key=292/>)