COLLEGE OF THE DESERT

Course Code ACT-023

Course Outline of Record

1. Course Code: ACT-023
2. a. Long Course Title: Framing Carpentry
   b. Short Course Title: FRAMING CARPENTRY
3. a. Catalog Course Description:
   This course provides instruction for 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. In addition to learning vocabulary associated with framing, students have the opportunity to apply Service Learning by way of a practical lab or an actual project site with close supervision of trade professionals.
   b. Class Schedule Course 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.
   c. Semester Cycle (*if applicable*): Fall
   d. Name of Approved Program(s):
   - CONSTRUCTION MANAGEMENT Certificate of Achievement
4. Total Units: 4.00 Total Semester Hrs: 180.00
   Lecture Units: 1 Semester Lecture Hrs: 18.00
   Lab Units: 3 Semester Lab Hrs: 162.00
   Class Size Maximum: 20 Allow Audit: No
   Repeatability No Repeats Allowed
   Justification 0
5. Prerequisite or Corequisite Courses or Advisories:
   Course with requisite(s) and/or advisory is required to complete Content Review Matrix (CCForm1-A)
   Prerequisite: CM 020 or
   Prerequisite: ACT 020
6. Textbooks, Required Reading or Software: *(List in APA or MLA format.)*
   a. National Center for Construction Education and Research (2016). *Construction Technology-Trainee Guide* (4th/e). Gainesville, FL Pearson Prentice Hall. ISBN: 0134130391
   College Level: Yes
   Flesch-Kincaid reading level: 12
7. Entrance Skills: *Before entering the course students must be able:*
   a. Discuss common safety hazards on construction sites.
   - ACT 020 - Discuss common safety hazards on construction sites.

   b. Explain the purpose of Occupational Safety and Health Administration (OSHA) and their regulations for the construction industry.
   - CM 020 - Explain the purpose of Occupational Safety and Health Administration (OSHA) and their regulations for the construction industry.

   c. Identify various hand tools used in the construction industry.
   - ACT 020 - Identify various hand tools used in the construction industry.

   d. Utilize various hand tools.
   - CM 020 - Utilize various hand tools.

   e. Identify various power tools used in the construction industry.
   - CM 020 - Identify various power tools used in the construction industry

   f. Discuss green construction practices.

- ACT 020 - Discuss green construction practices.

g. Discuss green building rating system.

- ACT 020 - Discuss green building rating system.

h. Understand the impact of construction to the environment.

- ACT 020 - Understand the impact of construction to the environment.

i. Demonstrate fluency reading a tape measure.

- CM 020 - Demonstrate fluency reading a tape measure.

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

- CM 020 - Demonstrate the ability to interpret information and instructions presented in both written and verbal form

k. Demonstrate critical thinking skills and the ability to solve problems using those skills.

- CM 020 - Demonstrate critical thinking skills and the ability to solve problems using those skills

l. Demonstrate effective relationship skills with teammates and supervisors, the ability to work on a team, and appropriate leadership skills.

- ACT 020 - Demonstrate effective relationship skills with teammates and supervisors, the ability to work on a team, and appropriate leadership skills.

m. Understand workplace issues such as sexual harassment, stress, and substance abuse.

8. Course Content and Scope:

Lecture:

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

Lab: *(if the "Lab Hours" is greater than zero this is required)*

a. Lay out and construct a floor assembly
b. Install bridging
c. Install joists for a cantilever floor
d. Install a subfloor using butt-joint plywood/OSB panels
e. Layout platform wall assembly
f. Construct and erect walls for a simple structure
g. Layout and construct a ceiling for a simple structure
h. Layout and construct a light metal frames wall
i. Layout and frame a roof using plank-and-beam framing
j. Frame a roof opening
k. Construct a gable roof using trusses.

9. Course Student Learning Outcomes:
   1.
   Outline the procedure for estimating the materials used in wood frame construction. (Cognitive)

   2.
   Identify the procedure and construction of different types of framing systems including the various members and fasteners used. (Psychomotor)

   3.
   Construct a simple structure using light wood frame construction. (Psychomotor)

   4.
   Demonstrate safety procedures utilized on the work premises. (Cognitive)

10. Course Objectives: *Upon completion of this course, students will be able to:*
    a. Identify the different types of framing systems.
    b. Overview of framing drawings and specifications.
    c. Identify floor and sill framing and support members.
    d. Identify the methods used to fasten sills to the foundation.
    e. Explain the different types of bridging.
    f. Identify the different types of flooring materials.
    g. Explain the purpose of subflooring and underlayment.
    h. Indentify selected fasteners used in floor framing.
    i. Describe the procedure for estimating the amount of material needed to frame a floor assembly.
    j. Identify the components of a wall and ceiling layout.
    k. Describe the procedure for laying out a wood frame wall, including plates, corner posts, door and window openings, partition Ts, bracing, and firestops.
    l. Describe the correct procedure for assembling and erecting an exterior wall.
    m. Identify the common material and methods used for installing sheathing on walls.
    n. Describe proper bracing for exterior walls.
    o. Explain the use of metal studs in wall framing.
    p. Describe the laying out of ceiling joists.
    q. Describe the procedure for estimating materials required to frame walls and ceilings.
    r. Understand the terms associated with roof framing.
    s. Identify the roof framing members used in gable and hip roofs.
    t. Explain the methods used to calculate the length of a rafter.
    u. Identify the various types of trusses used in roof framing.
    v. Identify various types of sheathing used in roof construction.
    w. Describe the procedure for estimating the materials used in framing and sheathing a roof.

11. Methods of Instruction: *(Integration: Elements should validate parallel course outline elements)*
    a. Demonstration, Repetition/Practice
    b. Discussion
    c. Lecture
    d. Participation

    Other Methods:

Office and site visits

12. Assignments: *(List samples of specific activities/assignments students are expected to complete both in and outside of class.)*

In Class Hours: 180.00
Outside Class Hours: 36.00

a. In-class Assignments

1. Individual projects
2. Small group projects

b. Out-of-class Assignments

1. Review questions
2. Short response papers
3. Vocabulary terms

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*
    - Written homework
    - Group activity participation/observation
    - Product/project development evaluation
    - Student participation/contribution
      Participation during office and site visits
    - Other
      Quizzes In-class exercises

14. Methods of Evaluating: Additional Assessment Information:

15. Need/Purpose/Rationale -- *All courses must meet one or more CCC missions.*
    PO - Career and Technical Education
    Fulfill the requirements for an entry- level position in their field.
    Apply critical thinking skills to execute daily duties in their area of employment.
    IO - Personal and Professional Development
    Self-evaluate knowledge, skills, and abilities.
    Demonstrate an understanding of ethical issues to make sound judgments and decisions.

16. Comparable Transfer Course

University System	Campus	Course Number	Course Title	Catalog Year

17. Special Materials and/or Equipment Required of Students:

18. Materials Fees: ☐ Required Material?

Material or Item	Cost Per Unit	Total Cost

19. Provide Reasons for the Substantial Modifications or New Course:

Periodic Course Review

20. a. Cross-Listed Course *(Enter Course Code)*: *N/A*
    b. Replacement Course *(Enter original Course Code)*: *N/A*

21. Grading Method *(choose one)*: Letter Grade Only

22. MIS Course Data Elements
    a. Course Control Number [CB00]: CCC000513176
    b. T.O.P. Code [CB03]: 95700.00 - Civil and Construction Ma
    c. Credit Status [CB04]: D - Credit - Degree Applicable
    d. Course Transfer Status [CB05]: C = Non-Transferable

e. Basic Skills Status [CB08]: 2N = Not basic skills course
f. Vocational Status [CB09]: Clearly Occupational
g. Course Classification [CB11]: Y - Credit Course
h. Special Class Status [CB13]: N - Not Special
i. Course CAN Code [CB14]: *N/A*
j. Course Prior to College Level [CB21]: Y = Not Applicable
k. Course Noncredit Category [CB22]: Y - Not Applicable
l. Funding Agency Category [CB23]: Y = Not Applicable
m. Program Status [CB24]: 2 = Stand-alone

Name of Approved Program *(if program-applicable)*: CONSTRUCTION MANAGEMENT
Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.)

23. Enrollment - Estimate Enrollment
First Year: 20
Third Year: 32

24. Resources - Faculty - Discipline and Other Qualifications:
a. Sufficient Faculty Resources: Yes
b. If No, list number of FTE needed to offer this course: *N/A*

25. Additional Equipment and/or Supplies Needed and Source of Funding.
N/A

26. Additional Construction or Modification of Existing Classroom Space Needed. *(Explain:)*
N/A

27. FOR NEW OR SUBSTANTIALLY MODIFIED COURSES
Library and/or Learning Resources Present in the Collection are Sufficient to Meet the Need of the Students Enrolled in the Course: Yes

28. Originator Donbert M. Bitanga Origination Date 04/22/18