

Course Outline of Record

1. Course Code: ACT-024
2.
  - a. Long Course Title: Roofing Applications
  - b. Short Course Title: ROOFING APPLICATIONS
3.
  - a. Catalog Course Description:
 

This course introduces the application of typical roof materials on different types of residential and light commercial structures. Safety procedures are emphasized as preparation for roofing application is demonstrated. Topics covered include roofing tools and proper roof ventilation. Some of the roof materials discussed include composite shingles, shakes, metal roofing, slate and tile, single ply roofing and foam application. 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 introduces the application of typical roof materials on different types of residential and light commercial structures. Safety procedures are emphasized as preparation for roofing application is demonstrated.
  - c. Semester Cycle (if applicable): Fall
  - d. Name of Approved Program(s):
4. Total Units: 2.00      Total Semester Hrs: 72.00  
 Lecture Units: 1      Semester Lecture Hrs: 18.00  
 Lab Units: 1      Semester Lab Hrs: 54.00  
 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 (CCForm I-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 (2009). Construction Technology-Trainee Guide (4th/e). Gainesville, FL Pearson Prentice Hall. ISBN: -  
 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.
    - ACT 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.
    - CM 020 - Identify various hand tools used in the construction industry
  - d. Identify various power tools used in the construction industry.
    - CM 020 - Identify various power tools used in the construction industry
  - e. Understand the impact of construction to the environment.
    - ACT 020 - Understand the impact of construction to the environment.
  - f. Solve simple arithmetic functions including addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals.

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- CM 020 - Solve simple arithmetic functions including addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals.

g. Demonstrate fluency reading a tape measure.

- ACT 020 - Demonstrate fluency reading a tape measure.

h. 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

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

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

j. 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.

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

- CM 020 - Understand workplace issues such as sexual harassment, stress, and substance abuse.

## 8. Course Content and Scope:

### Lecture:

1. Overview of typical roofing materials.
2. Safety on the roof
3. Roofing tools
4. Preparation for roofing application
5. Composition shingle installation
6. Roll roofing installation
7. Shake shingle installation
8. Common metal roofing
9. Slate and tile roofing
10. Single-ply roofing application
11. Torch-down roofing application
12. Roof ventilation

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

- a. Conduct safety procedures on roof
- b. Prepare a sheathed roof for roof finish application
- c. Install composite shingle
- d. Install roll roofing
- e. Install shake roofing
- f. Install metal roofing
- g. Install slate and/or tile roofing
- h. Install single-ply roofing
- i. Install torch-down roofing
- j. Install roof ventilation

## 9. Course Student Learning Outcomes:

1.  
Outline the safety requirements for roofing projects.
2.  
Identify the materials and methods used in roofing.
3.  
Install traditional and alternative types of roofing material.

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10. Course Objectives: *Upon completion of this course, students will be able to:*
- Identify the materials and methods used in roofing.
  - Explain the safety requirements for roofing projects.
  - Describe the procedure for installing fiberglass shingles on gable and hip roofs.
  - Explain the procedure for making various roof projections watertight when using fiberglass shingles.
  - Explain the procedure for installing a cricket or saddle.
  - Explain the procedure for installing shake material.
  - Explain the procedure for installing alternative types of roofing material.

11. Methods of Instruction: *(Integration: Elements should validate parallel course outline elements)*

- Demonstration, Repetition/Practice
- Discussion
- Lecture
- 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: 72.00

Outside Class Hours: 36.00

- a. In-class Assignments

- Individual projects
- Small group projects

- b. Out-of-class Assignments

- Review questions
- Vocabulary terms
- Short response papers

13. Methods of Evaluating Student Progress: *The student will demonstrate proficiency by:*

- Written homework
- Student participation/contribution
- Other

Quizzes In-class exercises Participation during office and site visits

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

Apply critical thinking skills to execute daily duties in their area of employment.

Display the skills and aptitude necessary to pass certification exams in their field.

IO - Personal and Professional Development

Develop realistic goals.

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**

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

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18. Materials Fees:  Required Material?

**Material or Item**

**Cost Per Unit**

**Total Cost**

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

Periodic review (2-year)

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]: CCC000513177  
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): *N/A*

*Attach listings of Degree and/or Certificate Programs showing this course as a required or a restricted elective.)*

23. Enrollment - Estimate Enrollment

First Year: 25  
Third Year: 30

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

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28. Originator Donbert M. Bitanga Origination Date 03/09/15