

ACT 329: MASONRY FUNDAMENTALS

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 three modules of a non-credit overlay version of CM 020 Introduction to Construction Technology. Module 1 covers tools, equipment, safety and green concepts; Module 2 provides training and review of the basic math skills required for construction; Module 3 provides an awareness of career opportunities in the construction industry and the employability skills required to succeed in those careers. 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.

Effective Term

Fall 2020

Credit Status

Noncredit

Subject

ACT - Applied Construction Technolog

Course Number

329

Full Course Title

Masonry Fundamentals

Short Title

MASONRY FUNDAMENTALS

Discipline

Disciplines List

Construction Technology

Modality

Face-to-Face
100% Online

Catalog Description

This course explores masonry and its history as one of the oldest trades and methods of construction. In addition, basic materials, tools, and techniques used by masons are discussed and demonstrated along with safety precautions exercised around a jobsite. The many types of masonry units are covered as well as the important role of mortar, and the concept of modularity and layout of masonry units. Students participate in Service Learning by way of a practical lab or an actual project site under close supervision of trade professionals.

Schedule Description

This course explores masonry and its history as one of the oldest trades and method of construction. Basic materials, tools, and techniques used by masons are discussed and demonstrated along with safety precautions exercised around a jobsite. Prerequisite: ACT 320, ACT 321 and ACT 321A or concurrent enrollment

Non-credit Hours

72

Lecture Units

0

Lecture Semester Hours

36

Lab Units

0

In-class Hours

36

Out-of-class Hours

36

Total Course Units

0

Total Semester Hours

72

Override Description

Noncredit override

Prerequisite Course(s)

ACT 320, ACT 321 and ACT 321A 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 #

9780134130392

Class Size Maximum

20

Entrance Skills

Understand common safety hazards on construction sites.

Requisite Course Objectives

ACT 320-Discuss common safety hazards on construction sites.

Entrance Skills

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

Requisite Course Objectives

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

Entrance Skills

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

Requisite Course Objectives

ACT 320-Demonstrate critical thinking skills and the ability to solve problems using those skills.

Entrance Skills

Convert measurements stated in feet and inches to equivalent measurements stated in decimal feet and vice versa.

Requisite Course ObjectivesACT 321-Convert measurements stated in feet and inches to equivalent measurements stated in decimal feet, and vice versa.
ACT 321A-Convert measurements stated in feet and inches to equivalent measurements stated in decimal feet, and vice versa.**Entrance Skills**

Explain and demonstrate the user of a builder's level and differential leveling procedures.

Requisite Course ObjectivesACT 321-Explain the use of a builder's level and differential leveling procedures.
ACT 321A-Demonstrate the use of a builder's level and differential leveling procedures.**Course Content**

1. History of Masonry.
2. Overview of the masonry trade.
3. Modern day masonry.
4. Stone.
5. Mortars and grouts.
6. Modern construction techniques.
7. Masonry as a career.
8. Knowledge, skills, and ability.
9. Basic bricklaying.
10. Safety practices.
11. Fall protection.
12. Concrete masonry materials.
13. Clay and other masonry materials.
14. Setting up and laying out.
15. Block head joints.
16. Bonding masonry units.
17. Cutting masonry units.
18. Laying masonry units.

19. Mortar joints.
20. Patching mortar.
21. Cleaning masonry units.

Course Objectives

Objectives	
Objective 1	Discuss the history of masonry.
Objective 2	Describe modern masonry materials and methods.
Objective 3	Explain career advancement possibilities in masonry work.
Objective 4	Describe the skills, attitudes, and abilities needed to work as a mason.
Objective 5	Explain the safety precautions that must be practiced at a work site.
Objective 6	Describe the proper procedure for the use of gasoline-powered tool.
Objective 7	Describe the most common types of masonry units.
Objective 8	Describe the proper procedure for setting up a wall.
Objective 9	Explain the process of laying out a dry bond.
Objective 10	Explain the process of spreading and furrowing a bed joint, and buttering masonry units.
Objective 11	Describe the different types of masonry bonds.
Objective 12	Explain the procedure for cutting brick and block accurately.
Objective 13	Describe the procedure for laying out masonry units in a true course.

Student Learning Outcomes

Upon satisfactory completion of this course, students will be able to:	
Outcome 1	Outline the safety procedures for hand and power tools used in masonry application.
Outcome 2	Describe modern masonry materials and methods of applications.
Outcome 3	Demonstrate the procedure for laying out masonry units in a true course.

Methods of Instruction

Method	Please provide a description or examples of how each instructional method will be used in this course.
Demonstration, Repetition/Practice	Individual and group participation in evaluation of concrete and masonry construction options.
Participation	Individual and group participation in evaluation of concrete and masonry construction options.
Lecture	Introduce topics in context.
Discussion	Individual and group participation in evaluation of concrete and masonry construction options.
Activity	Develop procedures for estimating materials for concrete and masonry services in residential construction.
Other (Specify)	Evaluate concrete and masonry installations at job sites.

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, methods and safety procedures for installing concrete and masonry in a residential structure.	Out of Class Only
Other	Quizzes, In-class exercises Participation during office and site visits.	In and Out of Class
Student participation/contribution	Individual and group participation in evaluation of written homework proposals.	In and Out of Class
Group activity participation/observation	Participation in discussion of material estimates, procedures and safety issues.	In and Out of Class

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 materials estimates.
2. Small group projects to develop safe and effective procedures for installing concrete and masonry in a residence or outdoor structure.
3. Small group projects to evaluate proposals.

Other Out-of-class Assignments

1. Review questions to demonstrate knowledge of material from text.
2. Prepare materials recommendations and estimates.
3. Short response papers to evaluate estimates and methods.
4. Vocabulary terms and description of equipment, tools, and methods.
5. Textbook readings.

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.
Regular virtual office hours.
Online quizzes and examinations.
Video or audio feedback.
Weekly announcement.

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**

11/5/2019

Academic Senate Approval Date

11/14/2019

Board of Trustees Approval Date

12/19/2019

Chancellor's Office Approval Date

01/10/2020

Course Control Number

CCC000611530

Programs referencing this courseConstruction Technology Concrete and Masonry Certificate of Completion (<http://catalog.collegeofthedesert.eduundefined?key=283/>)Construction Technology Career Preparation Certificate of Completion (<http://catalog.collegeofthedesert.eduundefined?key=292/>)