SAN DIEGO COMMUNITY COLLEGE DISTRICT
CONTINUING EDUCATION
COURSE OUTLINE

SECTION I

SUBJECT AREA AND COURSE NUMBER

CNCT 642

COURSE TITLE

CONSTRUCTION MATHEMATICS II

TYPE COURSE

NON-FEE APPRENTICESHIP

CATALOG COURSE DESCRIPTION

Course provides apprentices with application of advanced mathematical functions, standard units of measure, conversion of measurement from one type of unit to another (US Standard/ Metric), and calculation of squares and square roots used in layouts as they relate to building construction. (FT)

LECTURE/LABORATORY HOURS

56

ADVISORY

Registered as an apprentice in a state-approved apprenticeship program.

RECOMMENDED SKILL LEVEL

NONE

INSTITUTIONAL STUDENT LEARNING OUTCOMES

1. Social Responsibility
   SDCE students demonstrate interpersonal skills by learning and working cooperatively in a diverse environment.
2. Effective Communication
   SDCE students demonstrate effective communication skills.

INSTITUTIONAL STUDENT LEARNING OUTCOMES (CONTINUED)

3. Critical Thinking
   SDCE students critically process information, make decisions, and solve problems independently or cooperatively.
4. Personal and Professional Development
   SDCE students pursue short term and life-long learning goals, mastering necessary skills and using resource management and self-advocacy skills to cope with changing situations in their lives.

COURSE GOALS

1. Mastery of facts and basic principles of advanced mathematics.
2. Knowledge skills: Ability to relate general or specialized knowledge relevant to a problem and to implement a solution; the ability to locate, retain and apply relevant knowledge.
3. Performance skills: Development of the practical and technical performance competencies related to the application of the mathematical functions required of apprentices.

COURSE OBJECTIVES

Upon successful completion of this course the apprentices will be able to:

1. Demonstrate the ability to perform the advanced mathematical functions required of apprentices.
2. Demonstrate ability to apply the required mathematical calculations for given job problems.
3. Demonstrate ability to use and describe technical terms related to mathematics required of apprentices.

SECTION II

COURSE CONTENT AND SCOPE

1. Orientation
   - 1.1. Overview of course
   - 1.2. Review of course objectives
   - 1.3. Explanation of knowledge and performance standards and tests
2. Mathematics
   - 2.1. Application of basic mathematical functions
   - 2.2. Use and calculation of squares and square roots
   - 2.3. US Standard/Metric measuring units and their conversions
   - 2.4. Quantitative measurements and calculations
   - 2.5. Word problems
   - 2.6. Use of technical terminology

COURSE CONTENT AND SCOPE (CONTINUED)

3. Appropriate Reading and Writing Assignments
4. Field Trips and Other Outside Assignments
5. Appropriate Assignments that Demonstrate Critical Thinking and Knowledge and Performance Standards

APPROPRIATE READINGS

Appropriate readings may include, but are not limited to, periodicals, safety manuals, Material Safety Data Sheets (MSDS), OSHA materials and other publications related to construction mathematics.

WRITING ASSIGNMENTS

Appropriate writing assignments may include, but are not limited to, short essays as assigned, identifying and listing safety standards, preparing written descriptions of on-the-job activities, and providing written answers to specific questions related to construction mathematics.

OUTSIDE ASSIGNMENTS

Outside assignments may include, but are not limited to, reading texts, reference resources or handouts, research as needed to complete projects, and organizing and preparing written answers to assigned questions.

APPROPRIATE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING

Assignments which demonstrate critical thinking may include, but are not limited to, written and oral analysis and evaluation of readings and/or classroom material, discussion of safety issues, correct application of advanced mathematical functions, and prioritization of work processes.

EVALUATION

Written quizzes, midterm, final exam, project exams, class participation, attendance and on-going assessment of performance for individual projects.

METHODS OF INSTRUCTION

Lectures, laboratory, demonstrations, guest speakers, student projects, audio-visual presentations, workbook assignments and field trips.

This course, or sections of this course, may be offered through distance education.

NOTE: The use of a calculator is not permitted for class work.

TEXTS AND SUPPLIES

Text:

Mathematics, Third Edition, California State Department of Education

Supplies:

As required by projects.

References and Materials:

Appropriate course specific workbooks from the Associated General Contractors of America.

PREPARED BY: ASSOCIATED GENERAL CONTRACTORS JOINT APPRENTICESHIP COMMITTEE DATE: 3/27/95

REVISED BY: Randy Barnes DATE: November, 2006

REVISED BY: Instructional Services, SLOs added DATE: March 8, 2017

REVISED BY: Stuart Shaffer DATE: December 2, 2021

Instructors must meet all requirements stated in Policy 3100 (Student Rights, Responsibilities and Administrative Due Process), and the Attendance Policy set forth in the Continuing Education Catalog.

REFERENCES:

San Diego Community College District Policy 3100
California Community Colleges, Title 5, Section 55002
Continuing Education Catalog