



Construction Tools & Techniques (CNBT 1318)

Credit: 3 semester credit hours (2 hours lecture, 3 hours lab)

Prerequisite/Co-requisite: NONE

Course Description

Comprehensive study of the selection and use of hand tools, portable and stationary power tools and related construction equipment. Emphasis on safety in the use of tools and equipment.

Required Textbook and Materials

1. Core Curriculum Trainee Guide – NCCER
 - a. ISBN: 0136086373
2. Personal Protection Gear:
 - a. Safety Glasses
 - b. Leather Gloves
 - c. Work Boots
3. Tools:
 - a. 16” Claw hammer
 - b. 24’ min. Tape Measure
 - c. Speed Square
 - d. 36 ” Level

Course Objectives

Upon completion of this course, the student will be able to

1. Explain the safety obligations of workers, supervisors, and managers to ensure a safe workplace (SCANS: C5.2, C6.4, C7.3, C9.3, C10.1, C14.5, C20.3, F1.3, F2.6, F4.3, F7.5, F9.4, F11.2, F12.3)
2. Identify and properly use measuring devices. (SCANS: C5.2, C6.4, C7.3, C9.3, C10.1, C14.5, C20.3, F1.3, F2.6, F4.3, F7.5, F9.4, F11.2, F12.3)
3. Identify and properly use Hand Tools. (SCANS: C5.2, C6.4, C7.3, C9.3, C10.1, C14.5, C20.3, F1.3, F2.6, F4.3, F7.5, F9.4, F11.2, F12.3)
4. Identify and properly use Power Tools. (SCANS: C5.2, C6.4, C7.3, C9.3, C10.1, C14.5, C20.3, F1.3, F2.6, F4.3, F7.5, F9.4, F11.2, F12.3)
5. Identify and demonstrate basic Rigging procedures. (SCANS: C5.2, C6.4, C7.3, C9.3, C10.1, C14.5, C20.3, F1.3, F2.6, F4.3, F7.5, F9.4, F11.2, F12.3)

SCANS Skills and Competencies

Beginning in the late 1980's, the U.S. Department of Labor Secretary's Commission on Achieving Necessary Skills (SCANS) conducted extensive research and interviews with business owners, union leaders, supervisors, and laborers in a wide variety of work settings to determine what knowledge workers needed in order to perform well on a job.

In 1991 the Commission announced its findings in *What Work Requires in Schools*. In its research, the Commission determined that “workplace know-how” consists of two elements: foundation skills and workplace competencies.

Course Outline

1. Explain the safety obligations of workers, supervisors, and managers to ensure a safe workplace
 - a. Safe working procedures
 - b. Proper use of PPE's
 - c. Working with Hazardous Materials
 - d. Identify potential construction hazards
2. Construction Math
 - a. Addition and Subtracting
 - b. Division and Multiplying
 - c. Fractions / Decimals
3. Basic geometry Identify and properly use measuring devices
 - a. Tape Measure
 - b. Level
 - c. Square
 - d. Scales
4. Introduction to Construction Drawings
 - a. Basic Terms
 - b. Components and Symbols
 - c. Types of Drawings
 - d. Scales
5. Identify and properly use Hand Tools.
 - a. Hammers
 - b. Saws
 - c. Pullers
 - d. Clamps
6. Identify and properly use Power Tools.
 - a. Drills
 - b. Saws
 - c. Grinders
 - d. sanders
7. Identify and demonstrate basic Rigging procedures.
 - a. Ropes
 - b. Chains
 - c. Hoists
 - d. Loaders
 - e. Cranes

Course Evaluation

Final grades will be calculated according to the following criteria:

1. Daily lab grades and homework 33%
2. Exam grades 67%

All work turned in late will be penalized 5 points per day.

Grade Scale

90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
0 – 59	F

Course Requirements

1. Take Quizzes and NCCER Module Tests
2. Use tools in the lab

Course Policies

1. There will be no horseplay tolerated.
2. No loose clothing.
3. No open foot shoes, sandals, or flip-flops: closed-foot shoes only.
4. No smoking, eating, or sleeping will be tolerated during class.
5. No hanging jewelry or rings in lab.
6. After 6 absences there will be a student/teacher conference.

Disabilities Statement

The Americans with Disabilities Act of 1992 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with documented disabilities are guaranteed a learning environment that provides for reasonable accommodations for their disabilities. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator office located in the Cecil Beeson Building, room 120.

Course Schedule

Week	Topic	Reference
1	Chapter 1: Basic Safety	Module 1
3-4	Construction Math	Module 2
5-6	Construction Drawings	Module 5
7-8	Hand Tools	Module 3
9-10	Power Tools	Module 4
11-12	Basic Rigging	Module 6
13	Basic Communications	Module 7
14	Employability Skills	Module 8
15	Materials Handling	Module 9
16	Final Exam	