

Department:

Construction Trades Division; Construction Technology Program

Course Description:

The Carpentry I course helps learners to build general carpentry skills through NCCER General Carpentry curriculum. The included NCCER General Carpentry modules prepare individuals for entry-level positions on project sites by providing instruction and hands-on training for an orientation to the carpentry trade, building materials and fasteners, construction plans & documents, and site and building layout. Students taking this course, combined with the Carpentry II course, will be prepared to take and pass the General Carpentry exam to earn the NCCER General Carpentry credential. All content from NCCER General Carpentry 6th edition modules

Course Competencies:

The learning outcomes and competencies detailed in this syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups for this course as approved by the Kansas Board of Regents.

Upon completion of the course, the student should be able to:

ORIENTATION TO CARPENTRYLearning Objectives

1. Identify the career and training opportunities within the carpentry trade.
 - Describe craft training opportunities within the carpentry trade.
2. Explain the importance of safety in carpentry, and how it impacts contractors and craft professionals on the jobsite.
 - Describe the OSHA Outreach Training Program and contents of a site-specific safety plan (SSSP).
3. Identify skills and attributes of successful carpenters.
 - List the skills and responsibilities of professional carpenters.
 - Summarize the traits and standards followed by professional carpenters.

Performance Tasks

This is a knowledge-based module. There are not Performance Tasks.

BUILDING MATERIALS AND FASTENERSLearning Objectives

1. Identify safety hazards and precautions associated with wood, concrete, steel, and composite building materials.
 - Describe the focus four and explain how to reduce hazards associated with handling carpentry materials.
 - Explain the benefits of a job hazard analysis.
2. Identify different types of building materials and calculate needed quantities.
 - Summarize the types of lumber, their characteristics, and how lumber is graded.
 - Describe the types of treated lumber.
 - Identify engineered wood products and their applications.

- Distinguish between the types of concrete construction materials.
 - Describe the types of steel framing and their applications.
 - Summarize how to calculate lumber, panel, and concrete quantities.
3. Explain how to properly handle and store building materials.
 - Describe how to safely handle and store wood, concrete, and steel building materials.
 4. Identify fasteners, anchors, and adhesives used in construction.
 - Describe different types of nails, screws, bolts, and staples.
 - Summarize the categories of mechanical anchors.
 - List adhesives used in construction and identify their applications.

Performance Tasks

1. Learning Objective 2 - Given a selection of building materials, identify a particular material and state its use.
2. Learning Objective 2 - Calculate building material quantities using the described methods.
3. Learning Objective 4 - Demonstrate safe and proper installation of various types of fasteners, anchors, and adhesives.

CONSTRUCTION PLANS & DOCUMENTS

Learning Objectives

1. List drawings included in a set of construction plans and explain how to read them.
 - a. Describe the purpose of each type of drawing in a set of plans.
 - b. Identify selected lines, architectural symbols, and abbreviations used on plans.
 - c. Describe the methods of dimensioning construction drawings.
2. Describe the purpose of written specifications.
 - a. Summarize how specifications are organized.
 - b. Explain the importance of construction building codes.

Performance Tasks

1. Learning Objective 1 - Read and interpret construction plan drawings.
2. Learning Objective 1 - Read and interpret schedules.
3. Learning Objective 2 - Read and interpret written specifications.

PRINCIPLES OF SITE AND BUILDING LAYOUT

Learning Objectives

1. Explain how construction drawings are used in site and building layout.
 - Summarize tasks performed during site and building layout.
 - Describe the types of construction drawings used to lay out a building site.
2. Understand fundamental construction math concepts and right triangle calculations used in site layout.
 - Explain how angles, shapes, and the Pythagorean Theorem are used in site and building layout.
3. Describe measuring and leveling tools used in performing site and building layout.
 - Identify measuring tools and their applications.
 - Describe leveling tools and their applications.
 - Describe site layout instruments and equipment.
4. Explain how to measure horizontal and vertical distances, establish building lines, and verify corners are square.
 - Describe how to measure horizontal and vertical distances.
 - Summarize how to establish building lines with batter boards and verify corners are square.

Performance Tasks

1. Learning Objective 3 - Demonstrate the ability to use common measuring and leveling tools.

2. Learning Objective 3 - Use a water level, builder's level, laser level, or transit level to determine elevations and angles.
3. Learning Objective 4 - Use the 3-4-5 rule or Pythagorean Theorem to verify that intersecting walls are square.

Course Content:

- A. Orientation to Carpentry
- B. Building Materials and Fasteners
- C. Construction Plans & Documents
- D. Principles of Site and Building Layouts

Learning Assessments:

Competencies will be assessed by assignments, case problems, quizzes, chapter tests, hands-on projects, lab assignments, a midterm test, and a final test. The test can be in the objective format or in a problem-solving format.

Instructional Materials:

Textbook: NCCER. (2023). General Carpentry (6th ed.). Boston, MA: Pearson. ISBN-13: 978-0137699964

Guidelines for Requesting Accommodations Based on Documented Disability or Medical Condition

It is the intention of Highland Community College to work toward full compliance with the Americans with Disabilities Act, to make instructional programs accessible to all people, and to provide reasonable accommodations according to the law.

Students should understand that it is their responsibility to self-identify their need(s) for accommodation and that they must provide current, comprehensive diagnosis of a specific disability or medical condition from a qualified professional in order to receive services. Documentation must include specific recommendations for accommodation(s). Documentation should be provided in a timely manner prior to or early in the semester so that the requested accommodation can be considered and, if warranted, arranged.

In order to begin the process all students **must** complete the "Disabilities Self-Identification Form" on our [Disability Services website](#).

This form can also be accessed at the Highland Community College homepage under Students Services/Student Resources/Disability Service or by contacting the Disabilities Coordinator.

A Note on Harassment, Discrimination and Sexual Misconduct

Highland Community College seeks to assure all community members learn and work in a welcoming and inclusive environment. Title VII, Title IX, and College policy prohibit harassment, discrimination and sexual misconduct. Highland Community College encourages anyone experiencing harassment, discrimination or sexual misconduct to talk to report to the Vice President for Student Services, the Human Resources Director or complete an [online report](#) about what happened so that they can get the support they need and Highland Community College can respond appropriately.

There are both confidential and non-confidential resources and reporting options available to you. Highland Community College is legally obligated to respond to reports of sexual misconduct, and therefore we cannot guarantee the confidentiality of a report, unless made to a confidential resource. Responses may vary from support services to formal investigations. As a faculty member, I am required to report incidents of sexual misconduct and thus cannot guarantee confidentiality. I must provide our Title IX coordinator with relevant details such as the names of those involved in the incident. For more information about policies and resources or reporting options, please review our [Equity Grievance Policy](#).