

**Department:**

Construction Trades Division; Construction Technology Program

**Course Description:**

The Carpentry II course helps learners to build general carpentry skills through NCCER General Carpentry curriculum. The included NCCER General Carpentry modules prepare individuals for positions on project sites by providing instruction and hands-on training on the components and construction systems for floors, walls, roof framing, stairs, and building envelope. Students taking this course, combined with the Carpentry I 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:

**FLOOR SYSTEMS**Learning Objectives

1. Describe specifications and construction drawings that specify floor system requirements.
  - Summarize how specifications and architectural drawings are used in the construction of a floor.
2. Identify the types of floor framing systems.
  - Describe the types of wood-frame flooring systems.
  - List alternative flooring systems.
3. Identify floor system components and required material quantities.
  - Define sill plate and describe its role in floor framing.
  - List and recognize different types of girders and supports.
  - Describe different types of floor joists.
  - Explain the purposes of subfloor and underlayment.
  - Estimate the amount of material needed for a floor assembly.
4. Describe how to construct a platform floor assembly.
  - Summarize how specifications are organized.

Performance Tasks

1. Learning Objective 3 - Estimate the amount of material needed to frame a floor assembly from a set of plans.
2. Learning Objective 4 - Lay out and construct a floor assembly, including a rough opening and subfloor material.

**WALL SYSTEMS**Learning Objectives

1. Identify the components of a wall system and de-scribe how to estimate needed framing materials.
  - List wall system components.
  - Explain how to estimate quantities of materials required to frame walls.
2. Summarize the steps for laying out and framing walls.
  - Describe how to lay out wood frame walls.
  - Describe how to lay out steel frame walls.
3. Summarize the procedures for assembling and erecting wall systems.
  - Describe the steps used to assemble a wall.
  - List the four steps used to erect a wall.

#### Performance Tasks

1. Learning Objective 1 - Estimate materials required to frame walls.
2. Learning Objective 1 - Lay out a wood frame wall, including plates, corner assemblies, door and window openings, partition Ts, bracing, and fireblocking.
3. Learning Objective 3 - Assemble and erect a wood frame wall, including plates, corner assemblies, door and window openings, partition Ts, bracing, and fireblocking.
4. Learning Objective 3 - Correctly install sheathing on a wall.

### **ROOF FRAMING**

#### Learning Objectives

1. Identify and install ceiling frame components.
  - Describe how to lay out, cut, and install ceiling joists.
  - Explain how to estimate the number of ceiling joists needed for a building.
2. Identify common residential roof types and related components.
  - Describe residential roof types.
  - List the main components of a roof.
3. Describe the methods used to lay out and cut common rafters.
  - Explain how to lay out rafters and cut them to the proper length.
4. Explain how to erect and sheath a gable roof.
  - Describe how to erect a gable roof and frame gable ends.
  - Summarize how to install sheathing on the roof.
  - Explain how to estimate the rafters, ridgeboard, and sheathing needed for a material takeoff.
5. Recognize the use of trusses in basic roof framing.
  - Describe trusses and explain how they are installed.

#### Performance Tasks

1. Learning Objective 1 - Lay out ceiling joists.
2. Learning Objective 1 - Estimate the number of ceiling joists required for a building.
3. Learning Objective 3 - Lay out common roof rafters.
4. Learning Objective 4 - Cut and install roof rafters for a gable roof.
5. Learning Objective 4 - Frame a gable end wall.
6. Learning Objective 4 - Erect a gable roof using trusses.
7. Learning Objective 4 - Sheath a gable roof with an opening.

### **BASIC STAIR LAYOUT**

#### Learning Objectives

1. Identify stairway components and related requirements.
  - Define key stairway terms and building require.
  - Describe the types of stairways.
2. Describe how to determine the total rise, number and size of risers, and number and size of treads needed for a stairway.

- Summarize how to calculate the riser height, tread depth, and total run for a stairway.
  - Describe how to calculate stairwell opening sizes.
3. Restate the procedure for constructing stairs.
    - Explain how to lay out, cut, and build stringers and concentrate forms.

#### Performance Tasks

1. Learning Objective 2 - Calculate the total rise, number and size of risers, and number and size of treads required for a stairway.
2. Learning Objective 3 - Lay out and cut a stringer.

### **BUILDING ENVELOPE SYSTEMS**

#### Learning Objectives

1. Describe the purpose and components of a building envelope system.
  - Identify ways to minimize air and moisture infiltration in buildings.
2. Describe window types and installation requirements.
  - Identify window types, applications, and installation steps.
3. Describe door types, applications, and installation requirements.
  - Identify residential and non-residential doors and explain installation steps.

#### Performance Tasks

1. Learning Objective 2 - Prepare a rough opening for proper window installation.
2. Learning Objective 3 - Prepare a rough opening for proper door installation.

### **Course Content:**

- A. Floor Systems
- B. Wall Systems
- C. Roof Framing
- D. Basic Stair Layout
- E. Building Envelope Systems

### **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](#).