Department:

Building Trades

Course Description:

This course provides experience in construction of the sub-floor system in a residential house according to the Uniform Building Code. The course also offers experience in constructing and installing exterior and interior walls, as well as a practical study of sheet rock materials and finishing techniques.

Course Competencies:

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

1. Construct a floor system:
   a. Identify the different types of framing systems.
   b. Interpret drawings and specifications to determine floor system requirements.
   c. Identify floor and sill framing and support members.
   d. Name the methods used to fasten sills to the foundation.
   e. Given specific floor load and span data, select the proper girder and beam size from a list of available girders and beams.
   f. List and identify different types of floor joists.
   g. Given specific floor load and span data, select the proper joist size from a list of available joists.
   h. List and identify different types of bridging.
   i. List and identify different types of flooring materials.
   j. Explain the purposes of subflooring and underlayment.
   k. Match selected fasteners used in floor framing to their correct uses.
   l. Estimate the amount of material needed to frame a floor assembly.
   m. Lay out and construct a floor assembly.
   n. Install bridging.
   o. Install joists for a cantilever floor.
   p. Install a subfloor using butt-joint plywood/OSB panels.
   q. Install a single floor system using tongue-and-groove plywood/OSB panels.

2. Frame walls and ceilings:
   a. Identify the components of a wall and ceiling layout.
   b. Describe the procedure for laying out a wood frame wall, including plates, corner posts, door and window openings, partition Ts, bracing, and fire stops.
   c. Describe the correct procedure for assembling and erecting an exterior wall.
   d. Identify the common materials and methods used for installing sheathing on walls.
e. Lay out, assemble, erect, and brace exterior walls for a frame building.
f. Describe wall framing techniques used in masonry construction.
g. Explain the use of metal studs in wall framing.
h. Describe the procedure for laying out ceiling joists.
i. Cut and install ceiling joists on a wood frame building.
j. Estimate the materials required to frame walls and ceilings.

3. Give an overview of concrete, reinforcing materials, and forms:
   a. Identify the properties of cement.
   b. Describe the composition of concrete.
   c. Perform volume estimates for concrete quantity requirements.
   d. Identify types of concrete reinforcement materials and explain their uses.
   e. Identify various types of footings and explain their uses.
   f. Identify the parts of various types of forms.
   g. Explain the safety procedures associated with the construction and use of concrete forms.
   h. Erect, plumb, and brace a simple concrete form with reinforcement.

Course Content:

A. Laying Out and Constructing a Floor Assembly
B. Installing Bridging and Joists for a Cantilever Floor
C. Installing Subflooring
D. Laying Out, Assembling, and Erecting Brace Exterior Walls
E. Cutting and Installing Ceiling Joists
F. Constructing Simple Forms with Reinforcement
G. Performing Volume Estimates for Materials

Learning Assessments:

Course competencies will be assessed by participation in class discussion and activities, examinations, assignments, and class attendance.

Instructional Materials:

Core Curriculum, Introductory Craft Skills, Contren Learning Series, Pearson Hall.
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” at this link: https://highlandcc.edu/pages/disability-services.

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.