

Department:

Construction Trades Division; Construction Technology Program

Course Description:

Exterior Carpentry focuses on various types of exterior finish materials, thermal and moisture protection, Roofing applications and their installation procedures. Materials include wood, metal, vinyl, and fiber-cement siding. Installation of various types of insulation materials in walls, floors, and attics and proper installation practices for vapor barriers and waterproofing materials. Also, how to properly prepare the roof deck and install roofing for residential and commercial buildings

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:

EXTERIOR FINISHLearning objectives

1. Describe the safety hazards when working with exterior finish materials.
 - Identify safety hazards that are present when working at elevations.
 - Describe safety hazards when working with hand and power tools, equipment, and exterior finish materials.
2. Describe the various types and applications of exterior finish materials.
 - Identify the types of wood siding
 - Identify vinyl and metal siding materials and compounds.
 - List applications for fiber concrete siding.
 - Discuss the types of veneer finishes.
 - Explain the purpose of flashing.
3. Explain exterior finish materials
 - Describe surface preparation that must be performed prior to installing exterior finish materials.
 - Discuss the types of furring and insulation that might be applied to exterior walls.
 - Explain how to establish a straight reference.
 - Describe how to install wood siding.
 - Describe how to install vinyl and metal siding.
 - Describe how to install fiber cement siding.
 - Explain how to install cornices.
4. Describe the estimating procedure for exterior finish projects.
 - Explain how to perform a takeoff on panel and board siding.

Performance Tasks

1. Install three of the most common siding types in your area.
2. Estimate the amount of lap or panel siding required for a structure.

THERMAL AND MOISTURE PROTECTION

Learning objectives

1. Describe the safety and health hazards when working with insulation. Identify safety hazards that are present when working at elevations.
 - List the personal protective equipment that is required when working with insulation.
 - Drive how to safely handle Insulation.
2. Describe the various types of insulation and their characteristics.
 - Explain how to determine R value requirements.
 - Describe flexible insulation and list its characteristics.
 - Describe rigid or semi rigid insulation and list its characteristics.
 - Describe reflective insulation and list its characteristics.
 - List miscellaneous types of insulation.
3. Describe the various installation methods for insulation.
 - Explain how to install flexible insulation.
 - Explain how to install loose fill Insulation.
 - Explain how to install rigid or semi rigid insulation.
 - Explain how to install reflective insulation.
4. Identify the requirements for moisture control, waterproofing, and ventilation, and describe the related installation methods.
 - List various methods to control moisture in a structure.
 - Identify methods to waterproof a structure.

Performance Tasks

1. Install blanket insulation in a wall.
2. Install a vapor barrier on a wall.
3. Install selected building wraps.

ROOFING APPLICATIONS

Learning objectives

1. Explain the safety requirements for roofing projects.
 - Identify potential hazards when working on roofs.
 - Discuss the fall protection equipment required when working on roofs.
 - Identify proper personal protection equipment and hazard control devices when working on roofs.
2. Identify the tools and fasteners used in roofing.
 - Identify the hand tools used when working on roofing projects.
 - Identify the power tools he used when working on roofing projects.
 - Identify fasteners used on roofing projects.
3. Identify the different roofing systems and their associated materials.
 - Identify composition shingles and their applications.
 - Identify wood shakes and shingles and their applications.

- Identify tile/ slate, roofing materials and their applications.
 - Identify metal roofing and its applications.
 - Identify built up roofing and its applications.
 - Identify single ply roofing and its applications.
 - Explain the purpose of underlayment and waterproofing membrane.
 - Discuss the purpose of drip edge flashings and roof ventilation.
4. Describe the installation techniques for common roofing systems.
 - Describe how to properly prepare a roof deck.
 - Explain how to install composition shingles.
 - Explain how to install metal roofing.
 - Describe how to install roll roofing.
 - Discuss roof projections, flashings, and ventilation.
 5. Describe the estimating process for roofing projects.
 - List the personal protective equipment that is required when working with insulation.
 - Drive how to safely handle Insulation.
 5. Describe the various types of insulation and their characteristics.

Performance Tasks

1. Demonstrate how to install composition shingles on a specified roof and valley.
2. Demonstrate the method to properly cut and install the Ridge cap using composition shingles.
3. Layout, cut, and install a cricket or saddle.
4. Demonstrate the techniques for installing other selected types of roofing materials.

Course Content:

- A. Exterior finish
- B. Thermal and moisture protection
- C. Roofing applications

Learning Assessments:

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

Instructional Materials:

Textbook: NCCER. (2024). Advanced Carpentry: Frame and Finish (6th ed.). Boston, MA: Pearson. ISBN-13: 978-0138172435

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](#).