

COURSE SYLLABUS

LAST REVIEW	Fall 2022
COURSE TITLE	Floors, Walls & Ceiling Framing
COURSE NUMBER	CONS 0109
DIVISION	Career and Technical Education
DEPARTMENT	CONS
CIP CODE	46.0201
CREDIT HOURS	4
CONTACT HOURS/WEEK	Class: 1 Lab: 6 Clinical:
PREREQUISITES	KBOR approved Core Curriculum. OSHA 10, Math Level 3 Recommended

COURSE DESCRIPTION

This course is the basic carpentry course. It is in alignment with NCCER and the Kansas Board of Regents. It is (in part) a component of the Core Curriculum for the KCKCC Construction Technology program and the KCKCC Building and Property Maintenance program. The course topics include: Environmental sustainability, Hand and Power Tools, Floor Systems, Wall and Ceiling Framing, Thermal and Moisture Protection, and Exterior Finishing.

PROGRAM LEARNING OUTCOMES

1. Demonstrate appropriate safety practices and procedures.
2. Demonstrate proper methods for building a structure using provided blueprints.
3. Demonstrate proper installation of windows, doors, and stairs.

TEXTBOOKS

<http://kckccbookstore.com/>

METHODS OF INSTRUCTION

A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

- I. Hand and Power Tools (Core)
 - A. Hand tools.
 - B. Safety.
 - C. General safety rules.
 - D. General rules for properly maintaining power tools.
 - E. Portable power tools.
 - F. Using power tools in a safe manner.

II. Floor Systems (Core)

- A. Types of framing systems.
- B. Drawings and specifications of floor systems.
- C. Floor and sill framing and support members.
- D. Methods used to fasten sills.
- E. Girder/beam size.
- F. Types of floor joists.
- G. Proper joist size.
- H. Different types of bridging.
- I. Different types of flooring materials.
- J. Subflooring and underlayment.
- K. Fasteners in floor framing.
- L. Material needed to frame a floor.
- M. Floors
 - 1. Floor assembly
 - 2. Bridging
 - 3. Joists for a cantilever floor
 - 4. Subfloors.
 - 5. Single floor systems.

III. Wall and Ceiling Framing (Core)

- A. Components of a wall and ceiling.
- B. Laying out a wood frame wall.
- C. Assembling an exterior wall.
- D. Common materials for installing sheathing.
- E. Exterior walls.
- F. Wall framing techniques in masonry construction.
- G. Metal studs framing.
- H. Procedures for laying out joists.
- I. Ceiling joists on wood frame building.
- J. Materials required for framing.

IV. Thermal and Moisture Protection

- A. Requirements for insulation.
- B. Types of insulation material.
- C. Calculating insulation.
- D. Insulation materials.
- E. Moisture control and ventilation.
- F. Vapor barriers.
- G. Methods of waterproofing.
- H. Air infiltration control.
- I. Building wraps.

V. Exterior Finishing

- A. Wall insulation and flashing.
- B. Common cornices.
- C. Lap and panel siding.
- D. Types of common wood siding.
- E. Fiber-cement siding.
- F. Types and styles of vinyl and metal siding.
- G. Types and applications of stucco and masonry.

- H. Types of special exterior finish systems.
 - I. Types of siding commonly used in your area.
- VI. Environmental Sustainability
- A. Environmentally safe waste disposal.
 - B. Life cycle analysis.
 - C. Recycled material.
 - D. Low VOC emissions.
 - E. New “green” materials.
 - F. New “green” methods and practices.
 - G. “Low impact” designs.

COURSE LEARNING OUTCOMES AND COMPETENCIES

Upon successful completion of this course, the student will:

- A. Identify and describe the types of hand and power tools, safety, and tool usage.
 - 1. Identify the hand tools commonly used by carpenters and describe their uses.
 - 2. Use hand tools in a safe and appropriate manner.
 - 3. State the general safety rules for operating all power tools, regardless of type.
 - 4. State the general rules for properly maintaining all power tools, regardless of type.
 - 5. Identify the portable power tools commonly used by carpenters and describe their uses.
 - 6. Use portable power tools in a safe and appropriate manner

- B. Identify and describe types of floor systems, framing sizing, fastening, and flooring materials.
 - 7. Identify the different types of framing systems.
 - 8. Read and interpret drawings and specifications to determine floor system requirements.
 - 9. Identify floor and sill framing and support members.
 - 10. Name the methods used to fasten sills to the foundation.
 - 11. Give specific floor load and span data, select the proper girder/beam size from a list of available girders/beams.
 - 12. List and recognize different types of floor joists.
 - 13. Give specific floor load and span data, select the proper joist size from a list of available joists.
 - 14. List and recognize different types of bridging.
 - 15. List and recognize different types of flooring materials.
 - 16. Explain the purposes of subflooring and underlayment.
 - 17. Match selected fasteners used in floor framing to their correct uses.
 - 18. Estimate the amount of material needed to frame a floor assembly.
 - 19. Demonstrate the ability to:
 - a. Lay out and construct a floor assembly
 - b. Install bridging
 - c. Install joists for a cantilever floor
 - d. Install a subfloor using butt-joint plywood/OSB panels
 - e. Install a single floor system using tongue-and-groove plywood/OSB panels

- C. Identify and describe types of wall and ceiling framing, assembly, procedures and materials.
 - 20. Identify the components of a wall and ceiling layout.

21. Describe the procedure for laying out a wood frame wall, including plates, corner posts, door and window openings, partition Ts, bracing, and firestops.
 22. Describe the correct procedure for assembling and erecting an exterior wall.
 23. Identify the common materials and methods used for installing sheathing on walls.
 24. Lay out, assemble, erect, and brace exterior walls for a frame building.
 25. Describe wall framing techniques used in masonry construction.
 26. Explain the use of metal studs in wall framing.
 27. Describe the correct procedure for laying out ceiling joists.
 28. Cut and install ceiling joists on a wood frame building.
 29. Estimate the materials required to frame walls and ceilings.
- D. Identify and describe the types of insulation, thermal and moisture protection, and wraps.
30. Describe the requirements for insulation.
 31. Describe the characteristics of various types of insulation material.
 32. Calculate the required amounts of insulation for a structure.
 33. Install selected insulation materials.
 34. Describe the requirements for moisture control and ventilation.
 35. Install selected vapor barriers.
 36. Describe various methods of waterproofing.
 37. Describe air infiltration control requirements.
 38. Install selected building wraps.
- E. Identify and describe the types of siding and exterior finishing, and flashing.
39. Describe the purpose of wall insulation and flashing.
 40. Install selected common cornices.
 41. Identify, describe and demonstrate lap and panel siding estimating methods.
 42. Identify and describe the types and applications of common wood siding.
 43. Identify and describe fiber-cement siding and its uses.
 44. Identify and describe the types and styles of vinyl and metal siding.
 45. Identify and describe the types and applications of stucco and masonry veneer finishes.
 46. Identify and describe the types and applications of special exterior finish systems.
 47. Identify and explain the term “low Impact” as it relates to the environment.

ASSESSMENT OF COURSE LEARNING OUTCOMES AND COMPETENCIES

Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor’s course information document.

COLLEGE POLICIES AND PROCEDURES

Student Handbook

<https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf>

College Catalog

<https://www.kckcc.edu/academics/catalog/index.html>

College Policies and Statements

<https://www.kckcc.edu/about/policies-statements/index.html>

Accessibility and Accommodations

<https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html>.