

## COURSE SYLLABUS

<b>LAST REVIEW</b>	Fall 2022
<b>COURSE TITLE</b>	Scaffolding
<b>COURSE NUMBER</b>	CONS 0151
<b>DIVISION</b>	Career and Technical Education
<b>DEPARTMENT</b>	CONS
<b>CIP CODE</b>	46.0201
<b>CREDIT HOURS</b>	2
<b>CONTACT HOURS/WEEK</b>	Class: 1      Lab: 2      Clinical:
<b>PREREQUISITES</b>	KBOR approved Core Curriculum. OSHA 10, Math Level 3 Recommended

### COURSE DESCRIPTION

This is the course in Scaffolding. It is in alignment with NCCER (selected modules) and the Kansas Board of Regents. The course topics include: Environmental sustainability, Introduction to the Trade, Trade Safety, Trade Tools and Equipment, Trade Math, Stationary Scaffolds, Mobile Scaffolds and Suspension Scaffolds.

### PROGRAM LEARNING OUTCOMES

1. Demonstrate appropriate safety practices and procedures.
2. Demonstrate proper methods for completing exterior structures and surfaces.
3. Demonstrate different methods of preparing surfaces for painting.

### 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. Introduction to the Trade
  - A. Job success.
  - B. Apprenticeship training.
  - C. The scaffolding trade, trade math, and regulations.
  - D. Stationary scaffolds.
  - E. Mobile scaffolds.
  - F. Suspended scaffolds.
- II. Trade Safety

- A. Occupational Safety and Health Act (OSHA) regulations.
- B. Guidelines for scaffolding.
- C. Personal protective equipment.
- D. Fall protection.
- E. Electrical hazards.
- III. Trade Tools and Equipment
  - A. Specific hand tools.
  - B. Specific power tools.
  - C. Commonly-used lifting tools.
  - D. Fall protection equipment.
  - E. Storing, handling, and inspecting scaffolding materials.
- IV. Trade Math
  - A. Perimeters of plane surfaces.
  - B. 3-dimensional shapes.
  - C. Determining weights.
  - D. Types of loads on scaffold platforms.
  - E. Loads on scaffold platforms.
  - F. Wind loads on scaffolds.
- V. Stationary Scaffolds
  - A. Safety of tubular welded frame scaffolding.
  - B. Erecting tubular welded frame scaffolding.
  - C. Safety of tube and coupler scaffolding.
  - D. Erecting tube and coupler scaffolding.
  - E. Safety considerations of system scaffolds.
  - F. Erecting system scaffolding.
  - G. Safety of ladder-type and outrigger scaffolding.
  - H. Erecting ladder-type and outrigger scaffolding.
  - I. Safety of pump-jack scaffolding.
  - J. Methods for erecting pump-jack scaffolding.
- VI. Mobile Scaffolds
  - A. Erecting and using rolling scaffolding.
  - B. Erecting and using scaffold wagons.
  - C. Safe operation of scissors lifts.
  - D. Applications and operation of boom lifts.
- VII. Suspension Scaffolds
  - A. Safety of suspension scaffolding.
  - B. Methods for rigging suspension scaffolding.
  - C. Safety of boatswain's chairs, work cages, and beam suspended scaffolding.
  - D. Methods for rigging boatswain's chairs, work cages, and beam suspended scaffolding.
- VIII. 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 apprenticeships, jobs, trade math, and types of scaffolds.
  - 1. Identify and those personal qualities that are positively related to job success.
  - 2. Identify and explain the apprenticeship training process.
  - 3. Identify and explain the scaffolding trade, trade math, and the regulations and standards associated with the scaffolding trade.
  - 4. Identify and explain stationary scaffolds.
  - 5. Identify and explain mobile scaffolds.
  - 6. Identify and explain suspended scaffolds.
  
- B. Identify and describe trade safety
  - 7. Identify Occupational Safety and Health Act (OSHA) regulations that regulate the scaffolding industry.
  - 8. Identify and explain the basic guidelines for planning, erecting, and using scaffolding.
  - 9. Identify and explain personal protective and life-saving equipment.
  - 10. Identify and explain fall protection.
  - 11. Identify and explain electrical hazards.
  
- C. Identify and describe OSHA regulations, PPE, guidelines, fall protection, and electrical safety.
  - 12. Identify and describe the use of specific hand tools.
  - 13. Identify and describe the use of specific power tools.
  - 14. Identify and explain commonly-used lifting tools.
  - 15. Identify and describe the proper use of fall protection equipment.
  - 16. Identify and explain the proper methods of storing, handling, and inspecting scaffolding materials.
  
- D. Identify and describe perimeter, shapes, weights, and types of loads.
  - 17. Identify and calculate areas and perimeters of plane surfaces.
  - 18. Identify and calculate volumes of 3-dimensional shapes.
  - 19. Identify and describe the use tables to determine weights.
  - 20. Identify and describe the types of loads on scaffold platforms.
  - 21. Identify and calculate loads on scaffold platforms.
  - 22. Identify and calculate wind loads on specified scaffold configurations.
  
- E. Identify and describe types of scaffolds, erection, and safety.
  - 23. Identify and describe the safety considerations and components of tubular welded frame scaffolding.
  - 24. Identify and explain the proper methods for erecting tubular welded frame scaffolding.
  - 25. Identify and describe the safety considerations and components of tube and coupler scaffolding.
  - 26. Identify and explain the proper methods for erecting tube and coupler scaffolding.
  - 27. Identify and describe the safety considerations and components of system scaffolds.
  - 28. Identify and explain the proper methods of erecting system scaffolding.
  - 29. identify and describe the safety considerations and components of ladder-type and outrigger scaffolding.

30. Identify and explain the proper methods for erecting ladder-type and outrigger scaffolding.
  31. Identify the safety considerations and components of pump-jack scaffolding.
  32. Explain the proper methods for erecting pump-jack scaffolding.
- F. Identify and describe types of mobile scaffolds, safety and operation of boom lifts.
33. Explain the proper methods for safely erecting and using rolling scaffolding.
  34. Explain the proper methods for safely erecting and using scaffold wagons.
  35. Explain the safe operation of scissors lifts.
  36. Describe the applications and operation of boom lifts.
- G. Identify and describe suspension scaffold safety, rigging and types of lifts.
37. Identify the safety considerations and components of suspension scaffolding.
  38. Explain the proper methods for rigging suspension scaffolding.
  39. Identify the safety considerations and components of boatswain's chairs, work cages, and beam suspended scaffolding.
  40. Explain the proper methods for rigging boatswain's chairs, work cages, and beam suspended scaffolding.
- H. Identify and describe sound environmental practices for Scaffold systems, including waste disposal, life cycle analysis, green practices and low impact.
41. Describe waste disposal methods for this industry according to EPA and industry guidelines.
  42. Describe the process of life cycle analysis in this industry based on industry guidelines.
  43. Identify recycled materials by label and industry practice.
  44. Define "low emission" and give two examples.
  45. Identify new "green" materials now being introduced or currently used in this industry.
  46. Describe new "green" practices and methods being instituted or currently employed within this industry.
  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>.

