

## COURSE SYLLABUS

<b>LAST REVIEW</b>	Fall 2022
<b>COURSE TITLE</b>	Painting (Level 2)
<b>COURSE NUMBER</b>	CONS 0240
<b>DIVISION</b>	Career and Technical Education
<b>DEPARTMENT</b>	CONS
<b>CIP CODE</b>	46.0201
<b>CREDIT HOURS</b>	3
<b>CONTACT HOURS/WEEK</b>	Class: 1      Lab: 4      Clinical:
<b>PREREQUISITES</b>	KBOR approved Core Curriculum. OSHA 10, Math Level 3 Recommended

### COURSE DESCRIPTION

This is the advanced course in Painting. It is aligned with NCCER (selected modules) and the Kansas Board of Regents. The course topics include: Environmental sustainability, Painting Failures and Remedies, Job Planning and Completion, Low-Pressure Water Cleaning, Coatings Two and Spray Painting (Conventional, Airless and HVLP).

### 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. Painting Failures and Remedies
  - A. Types of coating failures.
  - B. Causes of failures.
  - C. Correcting failures.
  - D. High interior humidity.
  - E. Moisture damage.
- II. Job Planning and Completion
  - A. Estimating a job.
  - B. Plan and complete a painting job.

- C. Interpreting contractual documents.
  - 1. Blueprints
  - 2. Schedules (finish, door, etc.)
  - 3. Contract/specifications
  - 4. Scope of work
  - 5. Change orders
- D. Scheduling.
- E. Quantities of paints.
  - 1. Estimating forms.
  - 2. Quantity calculations
- III. Low-Pressure Water Cleaning
  - A. Low-pressure water washers:
    - 1. Basic equipment components and functions
    - 2. Accessories
    - 3. Cleaning and surface preparation agents
    - 4. Applications
    - 5. Wet abrasive blasting requirements
    - 6. Surface preparation standards and inspection techniques
  - B. Low-pressure washer operation guidelines:
    - 1. Warnings and hazards
    - 2. Pressure relief
    - 3. Starting and stopping
    - 4. Spraying
    - 5. Storage
- IV. Coatings II
  - A. High-performance coating.
  - B. Unique coating ingredients.
  - C. Coating types.
  - D. Unique coating solutions.
  - E. Appropriate coatings.
  - F. Coating preparations, tests, and inspections.
- V. Spray Painting (Conventional, Airless, and HVLP)
  - A. Conventional spray systems.
  - B. Airless and air-assisted airless spray systems.
  - C. HVLP spray systems.
  - D. Mixing paint.
  - E. Spray system components.
  - F. Airless spray system components.
  - G. HVLP spray system components.
  - H. Cleaning and maintenance on conventional spray equipment.
  - I. Cleaning and maintenance on airless spray equipment.
  - J. Cleaning and maintenance on HVLP spray equipment.
  - K. Wet and dry paint films.
  - L. Viscosity of paints and coatings.
- 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 and causes of painting failures and remedies.
  - 1. Identify and recognize the physical symptoms of various types of coating failures that occur on in interior and exterior finishes.
  - 2. Identify and state the cause or causes of specific types of failures.
  - 3. Identify and describe the appropriate method for correcting the specific types of failures and explain how each failure could have been prevented.
  - 4. Identify and describe the causes and remedies of coating failures related to high interior humidity.
  - 5. Identify and describe the causes and remedies of moisture damage due to snow and ice buildup on a roof.
  
- B. Identify and describe the steps of job planning and completion, and estimating.
  - 6. Identify and describe the general procedure or steps involved by a painting contractor when estimating a job for the purpose of submitting a bid.
  - 7. Identify and describe the general procedure or steps involved to properly plan and complete a painting job once a contract for the job has been awarded.
  - 8. Identify and correctly interpret contractual documents to determine the painting contractor’s responsibilities:
    - Blueprints
    - Schedules (finish, door, etc.)
    - Contract/specifications
    - Scope of work
    - Change orders
  - 9. Identify and develop a detailed schedule for accomplishing a selected job or task using labor hour data recorded on estimating forms and/or takeoff sheets.
  - 10. Identify and determine the quantities of paints and other materials needed to cover selected surfaces:
    - From estimating forms and/or takeoff sheets
    - By actual surface measurement and quantity calculations
  
- C. Identify and describe equipment, methods and hazards of low-pressure water cleaning.
  - 11. Identify and describe or demonstrate knowledge of low-pressure water washers:
    - Basic equipment components and functions
    - Accessories
    - Cleaning and surface preparation agents
    - Applications
    - Wet abrasive blasting requirements
    - Surface preparation standards and inspection techniques
  - 12. Identify and describe or demonstrate knowledge of typical low-pressure washer operation guidelines:
    - Warnings and hazards

Pressure relief  
Starting and stopping  
Spraying  
Storage

- D. Identify and describe types and application of coatings.
13. Identify and describe the properties of a high-performance coating.
  14. Identify and identify some unique coating ingredients and properties.
  15. Identify and identify several coating types besides common alkyd and latex paints.
  16. Identify and describe some situations that require unique coating solutions.
  17. Identify and select an appropriate coating given a job description.
  18. Identify and describe some coating preparations, tests, and inspections that can be done to ensure successful coating application.
- E. Identify and describe types of spray painting (conventional, airless, and hvlp) application and clean-up.
19. Identify and recognize conventional spray systems and components and explain the purpose or function served by each component in a conventional spray system.
  20. Identify and recognize airless and air-assisted airless spray systems and components and explain the purpose or function served by each component in airless and air-assisted airless spray systems.
  21. Identify and recognize HVLP spray systems and components and explain the purpose or function served by each component in an HVLP spray system.
  22. Identify and demonstrate how to properly mix paint in preparation for spray painting.
  23. Identify and select and/or properly size conventional spray system components needed for spraying different materials and surfaces.
  24. Identify and demonstrate how to use the equipment to properly apply paint to selected surfaces.
  25. Identify and select and/or properly size airless spray system components needed for spraying different materials and surfaces.
  26. Identify and demonstrate how to use the equipment to properly apply paint to selected surfaces.
  27. Identify and select and/or properly size HVLP spray system components needed for spraying different materials and surfaces.
  28. Identify demonstrate how to use the equipment to properly apply paint to selected surfaces.
  29. Identify and perform cleaning and maintenance on conventional spray equipment per the instructions given in the equipment manufacturer's service literature.
  30. Identify and perform cleaning and maintenance on airless spray equipment per the instructions given in the equipment manufacturer's service literature.
  31. Identify and perform cleaning and maintenance on HVLP spray equipment per the instructions given in the equipment manufacturer's service literature.
  32. Identify and demonstrate how to measure the thickness of wet and dry paint films.
  33. Identify and demonstrate how to measure the viscosity of paints and coatings.
- F. Identify and describe sound environmental practices for painters, including waste disposal, life cycle analysis, green practices and low impact
34. Identify and describe waste disposal methods for this industry according to EPA and industry guidelines.

35. Identify and describe the process of life cycle analysis in this industry based on industry guidelines.
36. Identify and identify recycled materials by label and industry practice.
37. Identify and define “low emission” and give two examples.
38. Identify and identify new “green” materials now being introduced or currently used in this industry.
39. Identify and describe new “green” practices and methods being instituted or currently employed within this industry.
40. Identify and 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>.