SYLLABUS

DATE OF LAST REVIEW: 02/2013
CIP CODE: 46.0201
SEMESTER: Departmental Syllabus
COURSE TITLE: Painting (Level 2)
COURSE NUMBER: CONS0240
CREDIT HOURS: 3
INSTRUCTOR: Departmental Syllabus
OFFICE LOCATION: Departmental Syllabus
OFFICE HOURS: Departmental Syllabus
TELEPHONE: Departmental Syllabus
EMAIL: KCKCC issued email accounts are the official means for electronically communicating with our students.


REQUIRED TEXT AND MATERIALS: Please check with the KCKCC bookstore, http://www.kckcebookstore.com/, for the required tests for your particular class.

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).

METHOD OF INSTRUCTION: A variety of instructional methods may be used depending on content area. They may include but are not limited to lecture, multimedia, cooperative/collaborative learning, demonstrations, labs, on-the-job, internships, performance tests, and other learning experiences outside the classroom. Methodology will be selected to best meet student needs.
COURSE OUTLINE:

I. MODULE 07201 - PAINTING FAILURES AND REMEDIES
   A. Types of coating failures.
   B. Causes of failures.
   C. Correcting failures.
   D. High interior humidity.
   E. Moisture damage.

II. MODULE 07202 - 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.
       2. Quantity calculations

III. MODULE 07204 - 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. MODULE 07210 - 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. MODULE 07211 - 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.

EXPECTED LEARNER OUTCOMES:
A. Module 07201. The student will be able to identify and describe the types and causes of painting failures and remedies.
B. Module 07202. The student will be able to identify and describe the steps of job planning and completion, and estimating.
C. Module 07204. The student will be able to identify and describe equipment, methods and hazards of low-pressure water cleaning.
D. Module 07210. The student will be able to identify and describe types and application of coatings.
E. Module 07211. The student will be able to identify and describe types of spray painting (conventional, airless, and hvlp) application and clean-up.
F. The student will identify and describe sound environmental practices for painters, including waste disposal, life cycle analysis, green practices and low impact.
COURSE COMPETENCIES:

Module 07201. The student will be able to identify and describe the types and causes of painting failures and remedies.

1. The student will be able to identify and recognize the physical symptoms of various types of coating failures that occur on interior and exterior finishes.
2. The student will be able to identify and state the cause or causes of specific types of failures.
3. The student will be able to identify and describe the appropriate method for correcting the specific types of failures and explain how each failure could have been prevented.
4. The student will be able to identify and describe the causes and remedies of coating failures related to high interior humidity.
5. The student will be able to identify and describe the causes and remedies of moisture damage due to snow and ice buildup on a roof.

Module 07202. The student will be able to identify and describe the steps of job planning and completion, and estimating.

6. The student will be able to 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. The student will be able to 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. The student will be able to 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. The student will be able to 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. The student will be able to 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

Module 07204. The student will be able to identify and describe equipment, methods and hazards of low-pressure water cleaning.

11. The student will be able to 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. The student will be able to identify and describe or demonstrate knowledge of typical low-pressure washer operation guidelines:
   - Warnings and hazards
   - Pressure relief
   - Starting and stopping
   - Spraying
   - Storage

Module 07210. The student will be able to identify and describe types and application of coatings.

13. The student will be able to identify and describe the properties of a high-performance coating.
14. The student will be able to identify and identify some unique coating ingredients and properties.
15. The student will be able to identify and identify several coating types besides common alkyd and latex paints.
16. The student will be able to identify and describe some situations that require unique coating solutions.
17. The student will be able to identify and select an appropriate coating given a job description.
18. The student will be able to identify and describe some coating preparations, tests, and inspections that can be done to ensure successful coating application.

Module 07211. The student will be able to identify and describe types of spray painting (conventional, airless, and hvlp) application and clean-up.

19. The student will be able to identify and recognize conventional spray systems and components and explain the purpose or function served by each component in a conventional spray system.
20. The student will be able to 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. The student will be able to identify and recognize HVLP spray systems and components and explain the purpose or function served by each component in an HVLP spray system.
22. The student will be able to identify and demonstrate how to properly mix paint in preparation for spray painting.
23. The student will be able to identify and select and/or properly size conventional spray system components needed for spraying different materials and surfaces.
24. The student will be able to identify and demonstrate how to use the equipment to properly apply paint to selected surfaces.
25. The student will be able to identify and select and/or properly size airless spray system components needed for spraying different materials and surfaces.
26. The student will be able to identify and demonstrate how to use the equipment to properly apply paint to selected surfaces.

27. The student will be able to identify and select and/or properly size HVLP spray system components needed for spraying different materials and surfaces.

28. The student will be able to identify demonstrate how to use the equipment to properly apply paint to selected surfaces.

29. The student will be able to identify and perform cleaning and maintenance on conventional spray equipment per the instructions given in the equipment manufacturer’s service literature.

30. The student will be able to identify and perform cleaning and maintenance on airless spray equipment per the instructions given in the equipment manufacturer’s service literature.

31. The student will be able to identify and perform cleaning and maintenance on HVLP spray equipment per the instructions given in the equipment manufacturer’s service literature.

32. The student will be able to identify and demonstrate how to measure the thickness of wet and dry paint films.

33. The student will be able to identify and demonstrate how to measure the viscosity of paints and coatings.

The student will identify and describe sound environmental practices for painters, including waste disposal, life cycle analysis, green practices and low impact

34. The student will be able to identify and describe waste disposal methods for this industry according to EPA and industry guidelines.

35. The student will be able to identify and describe the process of life cycle analysis in this industry based on industry guidelines.

36. The student will be able to identify and identify recycled materials by label and industry practice.

37. The student will be able to identify and define “low emission” and give two examples.

38. The student will be able to identify and identify new “green” materials now being introduced or currently used in this industry.

39. The student will be able to identify and describe new “green” practices and methods being instituted or currently employed within this industry.

40. The student will be able to identify and identify and explain the term “low Impact” as it relates to the environment.
ASSESSMENT OF LEARNER OUTCOMES:
Student progress is evaluated by means that include, but not limited to, exams, written assignments, performance tests, and class participation.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center in Rm. 3354 or call (913) 288-7670.