

## SYLLABUS

**DATE OF LAST REVIEW:** 09/2019

**CIP CODE:** 47.0603

**SEMESTER:** Departmental Syllabus

**COURSE TITLE:** Paint and Refinishing 4

**COURSE NUMBER:** ACRT0262

**CREDIT HOURS:** 4

**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.

**PREREQUISITE(S):** ACRT0100, ACRT0160

**REQUIRED TEXT AND MATERIALS:** Please check with the KCKCC bookstore, <http://www.kckccbookstore.com/>, for the required texts for your particular class.

**COURSE DESCRIPTION:** Upon completion of this course, the student will have knowledge of and will use safety equipment. The student will perform proper surface preparation for refinishing, along with applying corrosion resistant coating. Proper vehicle masking and adjacent panel protection will be performed. The student will also use proper spray gun operation and cleaning procedures to apply paint to an auto body panel and to an entire vehicle. Color tinting for a color match will be practiced. Complete vehicle detailing and solving paint defects will be performed. Live customer work will continue.

**METHOD 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. 4.A Safety Precautions
- II. 4.B Surface Preparation
- III. 4.C Spray Gun and Related Equipment Operation

- IV. 4.D Paint Mixing, Matching, and Applying
- V. 4.E Paint Defects - Causes and Cures
- VI. 4.F Final Detail

**EXPECTED LEARNER OUTCOMES:**

- A. The student will be able to apply exemplary safety procedures in all areas of auto body painting and refinishing
- B. The student will be able to perform proper cleaning procedures for a refinish
- C. The student will be able to prepare adjacent panels for blending
- D. The student will be able to prepare plastic panels for refinishing
- E. The student will be able to protect all non-finished areas of vehicle
- F. The student will be able to operate high and low volume/pressure spray gun operations for painting and refinishing
- G. The student will be able to perform all paint system applications on an automobile
- H. The student will be able to apply appropriate paint color matching and mixing procedures
- I. The student will be able to tint color using formula to achieve a blendable match
- J. The student will be able to explore the causes, effects and correction of buffing-related imperfections
- K. The student will be able to explore the causes, effects and correction of pigment flotation
- L. The student will be able to measure mil thickness
- M. The student will be able to apply decals, transfers, tapes, woodgrains, pinstripes to an automobile
- N. The student will be able to apply buffing and polishing techniques to remove defects
- O. The student will be able to apply cleaning techniques to automobile interior, exterior, glass and body openings
- P. The student will be able to remove overspray

**Course Competencies:**

Upon successful completion of this course: in the classroom or classroom shop setting and by meeting any institution-required NATEF Tasks from the criteria outlined below. NATEF Guidelines of: 95% of HP-I items must be taught in the curriculum; 90% of HP-G items must be taught in the curriculum

*The student will be able to apply exemplary safety procedures in all areas of auto body painting and refinishing*

**(Linked External Standards 4.A Safety Precautions)**

1. The student will be able to identify and take necessary precautions with hazardous operations and materials according to federal, state, and local regulations. (HP-I) (4.A.1)(EDS02 module 1 REF01 module 4 REF03 modules 2,4 WKR01 module3)
2. The student will be able to identify safety and personal health hazards according to OSHA guidelines and the Right to Know Law. (HP-I) (4.A.2)(WKR01 module1)
3. The student will be able to inspect spray environment to ensure compliance with federal, state and local regulations, and for safety and cleanliness hazards. (HP-I)(4.A.3)( EDS02 module 1 REF01 module 3 WKR01 module 2)
4. The student will be able to select and use the NIOSH approved personal sanding respirator. The student will be able to inspect condition and ensure fit and operation. The student will be able to perform proper maintenance in accordance with OSHA Regulation 1910.134 and applicable state and local regulation. (HP-I) (4.A.4)(WKR01 module 4)

5. The student will be able to select and use the NIOSH approved (Fresh Air Make-up System) personal painting/refinishing respirator system. The student will be able to perform proper maintenance in accordance with OSHA Regulation 1910.134 and applicable state and local regulation. (HP-I)(4.A.5)(EDS02 module 1 REF01 module 2 WKR01 module 4)
6. The student will be able to select and use the proper personal safety equipment for surface preparation, spray gun and related equipment operation, paint mixing, matching and application, paint defects, and detailing (gloves, suits, hoods, eye and ear protection, etc.). (HP-I) (4.A.6)(EDS02 modules 1,2,3,4,5,6,7 REF02 module 2 REF03 modules 2,4 WKR01 module 4)

*The student will be able to perform proper cleaning procedures for a refinish*

**(Linked External Standards 4.B Surface Preparation)**

7. The student will be able to inspect, remove, store, and replace exterior trim and components necessary for proper surface preparation. (HP-I)(4.B.1)(DAM04 v.2.1 module 4 DAM04 v.2.2 module 3 TRM01 modules 3,6,7)
8. The student will be able to soap and water wash entire vehicle; use appropriate cleaner to remove contaminants. (HP-I)(4.B.2)(EDS02 module 3 REF02 module 1 REF04 module 1)
9. The student will be able to inspect and identify substrate, type of finish, surface condition, and film thickness; develop and document a plan for refinishing using a total product system. \*(HP-I)( 4.B.3)(DAM v.2.4 module 3 DAM01 v.2.5 module 4 EDS02 module 1)
10. The student will be able to remove paint finish. (HP-I)(4.B.4)(EDS02 module 3 REF module 2)
11. The student will be able to dry or wet sand areas to be refinished. (HP-I)(4.B.5)(EDS02 module 3 REF02 module 4 REF03 module 2)
12. The student will be able to featheredge damaged areas to be refinished. (HP-I)(4.B.6)(EDS02 module 3 REF02 module 4)
13. The student will be able to apply suitable metal treatment or primer in accordance with total product systems. (HP-I) (4.B.7)(CPS01 module 3 EDS02 module 4 REF02 module 4)
14. The student will be able to mask and protect other areas that will not be refinished. (HP-I)(4.B.8)(EDS02 module 3 REF02 module 2)
15. The student will be able to mix primer, primer-surfacer or primer-sealer. (HP-I)(4.B.9)(EDS02 module 4 REF01 module 5 REF02 module 4 REF03 module 4)
16. The student will be able to apply primer onto surface of repaired area. (HP-I)(4.B.10)(EDS02 module 4 REF02 module 4)
17. The student will be able to apply two-component finishing filler to minor surface imperfections. (HP-I) (4.B.11)(EDS01 module 3 STS01 module 2)
18. The student will be able to dry or wet sand area to which primer-surfacer has been applied. (HP-I)(4.B.12)( EDS02 module 4 REF02 module 4)
19. The student will be able to dry sand area to which two-component finishing filler has been applied. (HP-I)(4.B.13)( EDS01 module 3 STS01 module 2)
20. The student will be able to remove dust from area to be refinished, including cracks or moldings of adjacent areas. (HP-I)(4.B.14)(EDS02 module 3 REF02 module 4 REF03 modules 3,4)
21. The student will be able to clean area to be refinished using a final cleaning solution. (HP-I)(4.B.15)(EDS02 module 3 REF03 module 3)

22. The student will be able to remove, with a tack rag, any dust or lint particles from the area to be refinished. (HP-I)( 4.B.16)(EDS02 module 5 REF02 modules 3,4 REF03 module 4)
23. The student will be able to apply suitable sealer to the area being refinished when sealing is needed or desirable. (HP-I) (4.B.17)(EDS02 module 4 REF03 module 4)
24. The student will be able to scuff sand to remove nibs or imperfections from a sealer. (HP-I)(4.B.18)( EDS02 module 4)
25. The student will be able to apply stone chip resistant coating. (HP-G)(4.B.19)(CPS01 module 4 EDS02 module 5 REF03 module 3)
26. The student will be able to restore corrosion-resistant coatings, caulking, and seam sealers to repaired areas. (HP-I)(4.B.20)(CPS01 modules 3,4 EDS02 modules 4,5 REF02 module 5)
27. The student will be able to prepare adjacent panels for blending. (HP-I)(4.B.21)(EDS02 module 5 REF02 modules 4,5)
28. The student will be able to identify the types of rigid, semi-rigid or flexible plastic parts to be refinished; determine the materials, preparation, and refinishing procedures. (HP-I)(4.B.22)(EDS02 module 5 REF02 module 4)
29. The student will be able to identify aluminum parts to be refinished; determine the materials, preparation, and refinishing procedures. (HP-G)(4.B.23)(EDS02 module 4 REF02 modules 1,4)

*The student will be able to prepare adjacent panels for blending*  
**(Linked External Standards 4.B Surface Preparation)**

30. The student will be able to mask and protect other areas that will not be refinished. (HP-I) (4.B.8)(EDS02 module 3 REF02 module 2)
31. The student will be able to mix primer, primer-surfacer or primer-sealer. (HP-I) (4.B.9)(EDS02 module 4 REF01 module 5 REF02 module 4 REF03 module 4)
32. The student will be able to apply primer onto surface of repaired area. (HP-I) (4.B.10)(EDS02 module 4 REF02 module 4)
33. The student will be able to apply two-component finishing filler to minor surface imperfections. (HP-I) (4.B.11)(EDS01 module 3 STS01 module 2)
34. The student will be able to dry or wet sand area to which primer-surfacer has been applied. (HP-I)(4.B.12)( EDS02 module 4 REF02 module 4)
35. The student will be able to dry sand area to which two-component finishing filler has been applied. (HP-I)(4.B.13)( EDS01 module 3 STS01 module 2)
36. The student will be able to remove dust from area to be refinished, including cracks or moldings of adjacent areas. (HP-I)(4.B.14)(EDS02 module 3 REF02 module 4 REF03 modules 3,4)
37. The student will be able to clean area to be refinished using a final cleaning solution. (HP-I)(4.B.15)(EDS02 module 3 REF03 module 3)
38. The student will be able to remove, with a tack rag, any dust or lint particles from the area to be refinished. (HP-I)( 4.B.16)(EDS02 module 5 REF02 modules 3,4 REF03 module 4)
39. The student will be able to apply suitable sealer to the area being refinished when sealing is needed or desirable. (HP-I) (4.B.17)(EDS02 module 4 REF03 module 4)
40. The student will be able to scuff sand to remove nibs or imperfections from a sealer. (HP-I)(4.B.18)( EDS02 module 4)
41. The student will be able to apply stone chip resistant coating. (HP-G)(4.B.19)(CPS01 module 4 EDS02 module 5 REF03 module 3)

42. The student will be able to restore corrosion-resistant coatings, caulking, and seam sealers to repaired areas. (HP-I)(4.B.20)(CPS01 modules 3,4 EDS02 modules 4,5 REF02 module 5)
43. The student will be able to prepare adjacent panels for blending. (HP-I)(4.B.21)(EDS02 module 5 REF02 modules 4,5)
44. The student will be able to identify the types of rigid, semi-rigid or flexible plastic parts to be refinished; determine the materials, preparation, and refinishing procedures. (HP-I)(4.B.22)(EDS02 module 5 REF02 module 4)
45. The student will be able to identify aluminum parts to be refinished; determine the materials, preparation, and refinishing procedures. (HP-G)(4.B.23)(EDS02 module 4 REF02 modules 1,4)

*The student will be able to prepare plastic panels for refinishing*  
**(Linked External Standards 4.B Surface Preparation)**

46. The student will be able to identify the types of rigid, semi-rigid or flexible plastic parts to be refinished; determine the materials, preparation, and refinishing procedures. (HP-I)(4.B.22)(EDS02 module 5 REF02 module 4)

*The student will be able to protect all non-finished areas of vehicle*  
**(Linked External Standards 4.B Surface Preparation)**

47. The student will be able to inspect, remove, store, and replace exterior trim and components necessary for proper surface preparation. (HP-I)(4.B.1)(DAM04 v.2.1 module 4 DAM04 v.2.2 module 3 TRM01 modules 3,6,7)
48. The student will be able to mask and protect other areas that will not be refinished. (HP-I)(4.B.8)(EDS02 module 3 REF02 module 2)

*The student will be able to operate high and low volume/pressure spray gun operations for painting and refinishing*  
**(Linked External Standards 4.C Spray Gun and Related Equipment Operation)**

49. The student will be able to inspect, clean, and determine condition of spray guns and related equipment (air hoses, regulators, air lines, air source, and spray environment). (HP-I)(4.C.1)(EDS02 module 2 REF module 1)
50. The student will be able to check and adjust spray gun operation for HVLP (high volume, low pressure) or LVLP (low volume, low pressure) guns. (HP-I)(4.C.2)(EDS02 module 2 REF module 1 REF02 module 3)
51. The student will be able to set-up (fluid needle, nozzle, and cap), adjust, and test spray gun using fluid, air, and pattern control valves. (HP-I)(4.C.3)(EDS02 module 2 REF module 1 REF02 module 3)

*The student will be able to perform all paint system applications on an automobile*  
**(Linked External Standards 4.D Paint The student will be able to mixing, Matching, and The student will be able to applying)**

52. The student will be able to determine type and color of paint already on vehicle by manufacturer s vehicle information label. (HP-I)(4.D.1)(DAM01 module 4 EDS02 module 3 REF03 module 1)
53. The student will be able to shake, stir, reduce, catalyze/activate, and strain paint. (HP-I)(4.D.2)(EDS02 module 2,4 REF03 module 4)

54. The student will be able to apply finish using appropriate spray techniques (gun arc, gun angle, gun distance, gun speed, and spray pattern overlap) for the finish being applied. (HP-I)(4.D.3)(EDS02 module 2 REF02 module 3)
55. The student will be able to apply selected product on test and let-down panel; check for color match. (HP-I) (4.D.4)(REF03 module 2)
56. The student will be able to apply single stage topcoat. (HP-I)(4.D.5)(EDS02 module 5 REF03 module 4)
57. The student will be able to apply basecoat/clearcoat for panel blending or partial refinishing. (HP-I)(4.D.6)(EDS02 module 5 REF03 modules 3,4)
58. The student will be able to apply basecoat/clearcoat for overall refinishing. (HP-G)(4.D.7)(EDS02 module 5 REF03 module 4)
59. The student will be able to denib, buff, and polish finishes where necessary. (HP-I)(4.D.8)(REF04 module 2)
60. The student will be able to refinish rigid, semi-rigid, and flexible plastic parts. (HP-G)(4.D.9)(EDS02 module 5 REF03 modules 3,4)
61. The student will be able to apply multi-stage coats for panel blending or overall refinishing. (HP-G)(4.D.10)(EDS02 module 5 REF03 module 4)
62. The student will be able to identify and mix paint using a formula. (HP-G)(4.D.11)(EDS02 module 4 REF01 module 5)
63. The student will be able to identify poor hiding colors; determine necessary action. (HP-G)(4.D.12)(EDS02 module 6 REF03 module 3)
64. The student will be able to tint color using formula to achieve a blendable match. (HP-G)(4.D.13)(REF03 module 5)
65. The student will be able to identify alternative color formula to achieve a blendable match. (HP-G)(4.D.14)(REF03 module 2)

*The student will be able to apply appropriate paint color matching and mixing procedures*

**(Linked External Standards 4.D Paint The student will be able to mixing, Matching, and The student will be able to applying)**

66. The student will be able to determine type and color of paint already on vehicle by manufacturer s vehicle information label. (HP-I)(4.D.1)(DAM01 module 4 EDS02 module 3 REF03 module 1)
67. The student will be able to shake, stir, reduce, catalyze/activate, and strain paint. (HP-I)(4.D.2)(EDS02 module 2,4 REF03 module 4)
68. The student will be able to apply finish using appropriate spray techniques (gun arc, gun angle, gun distance, gun speed, and spray pattern overlap) for the finish being applied. (HP-I)(4.D.3)(EDS02 module 2 REF02 module 3)
69. The student will be able to apply selected product on test and let-down panel; check for color match. (HP-I) (4.D.4)(REF03 module 2)
70. The student will be able to identify and mix paint using a formula. (HP-G)(4.D.11)(EDS02 module 4 REF01 module 5)
71. The student will be able to identify poor hiding colors; determine necessary action. (HP-G)(4.D.12)(EDS02 module 6 REF03 module 3)
72. The student will be able to tint color using formula to achieve a blendable match. (HP-G)(4.D.13)(REF03 module 5)
73. The student will be able to identify alternative color formula to achieve a blendable match. (HP-G)(4.D.14)(REF03 module 2)

- The student will be able to tint color using formula to achieve a blendable match*  
**(Linked External Standards 4.D Paint The student will be able to mixing, Matching, and The student will be able to applying)**
74. The student will be able to tint color using formula to achieve a blendable match. (HP-G)(4.D.13)(REF03 module 5)
- The student will be able to explore the causes, effects and correction of buffing-related imperfections*  
**(Linked External Standards 4.E Paint Defects - Causes and Cures)**
75. The student will be able to identify buffing-related imperfections (swirl marks, wheel burns); correct the condition. (HP-G)(4.E.27)(REF04 module 2)
- The student will be able to explore the causes, effects and correction of pigment flotation*  
**(Linked External Standards 4.E Paint Defects - Causes and Cures)**
76. The student will be able to identify pigment flotation (color change through film build); determine the cause(s) and correct the condition. (HP-G)(4.E.28)(EDS02 module 6 REF03 module 3)
- The student will be able to measure mil thickness*  
**(Linked External Standards 4.E Paint Defects - Causes and Cures)**
77. The student will be able to measure mil thickness. (HP-I)(4.E.29)(EDS02 module 3REF02 module 1 REF04 module 1)
- The student will be able to apply decals, transfers, tapes, woodgrains, pinstripes to an automobile*  
**(Linked External Standards 4.F Final Detail)**
78. The student will be able to apply decals, transfers, tapes, woodgrains, pinstripes (painted and taped), etc. (HP-G) (4.F.1)(TRM01 module 4)
- The student will be able to apply buffing and polishing techniques to remove defects*  
**(Linked External Standards 4.F Final Detail)**
79. The student will be able to buff and polish finish to remove defects as required. (HP-I)(4.F.2)(REF04 module 2)
- The student will be able to apply cleaning techniques to automobile interior, exterior, glass and body openings*  
**(Linked External Standards 4.F Final Detail)**
80. The student will be able to clean interior, exterior, and glass. (HP-I)(4.F.3)(REF03 module 3)
81. The student will be able to clean body openings (door jambs and edges, etc.). (HP-I)(4.F.4)(REF04 module 3)
- The student will be able to remove overspray*  
**(Linked External Standards 4.F Final Detail)**
82. The student will be able to remove overspray. (HP-I)(4.F.5)(EDS01 module 6 REF04 module 2)

**ASSESSMENT OF LEARNER OUTCOMES:**

Student progress is evaluated by means that include, but are not limited to, exams, written assignments, and class participation.

**Attendance:** Attendance will be in accordance with the certifying agency's requirements.

**SPECIAL NOTES:**

**Safety:** Attendance is critical throughout the safety instructions and quizzes. Students must complete all of the safety training before the student can advance or go on to the next course.

Caveats:

1. Safety glasses with side shields are required to be worn during lab activities for this course. This is in compliance with accepted eye protection practices and Kansas State Law (K.S.A. 72-5207). Safety glasses must meet American National Standards Institute Z87.1 specifications. (NOTE: Most prescription eyewear does not meet ANSI Z87.1. Students who wear prescription glasses must: a) Provide evidence that existing eyewear meets ANSI Z87.1, or b) Wear cover goggles (if allowable), or c) Purchase and wear ANSI Z87.1 prescription eyewear.
2. Lab Guidelines: In order to assist with the safe and efficient operation of the automotive lab area, students are expected to be familiar with and adhere to the Automotive Student Lab Guidelines.

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 at 913-288-7670 V/TDD.

All enrolled students at Kansas City Kansas Community College are subject to follow all rules, conditions, policies and procedures as described in both the Student Code of Conduct as well as the Student Handbook. All Students are expected to review both of these documents and to understand their responsibilities with regard to academic conduct and policies. The Student Code of Conduct and the Student Handbook can be found on the KCKCC website.