Collision Repair & Refinishing: Scope & Sequence

Year 1, Semester 1

AC101 - Auto Collision Repair I
(94 Days) (45 Class, 49 Lab, 52% Lab)

District Pre-Assessment

Unit 1 (7 Days - 5 Class, 2 Lab)

Intro to Collision Careers and Repair Planning:

- Overview of Industry Careers
- Job Outlook
- Career Literacy: Career Tree Overview, Branch Report, and Leaf
- Repair Planning Fundamentals
- Damage Analysis

CTSO Integration (Leadership Skills): Hold Officer Elections
Professional Skills: 7.A-C
Academic Standards ELA 11-12.RI.7-ELA 11-12.W.9
Technical Standard: NA
I-Car Course: Repair Planning

Unit 2 (25 Days - 12 Class, 13 Lab)

Safety, Health, Knowledge & Tools and Equipment:

- Personal Protective Equipment
- Uniform
- 6H Certification: Emission Standards, Hazardous Air Pollutants, Safety & Pollution Prevention exam
- Vehicle Repair Information
- Repair Facility Safety
- Power Tools
- Sanding Techniques
- Vehicle Construction and Safety Systems
- Vehicle Protection
- Heat Application for Vehicle Repairs
- Corrosion Protections

CTSO Integration (Leadership Skills): Hold CTSO Meeting, Repair Dent on Fender
Professional Skills: 8.A-I
Academic Standards: ELA 11-12.L.4
Work-based Learning: Hands-on, locate and describe safety measures for specific scenarios.
Technical Standard: 1.1-1.4
I-Car Course: Collision Repair Fundamentals

Unit 3 (10 Days - 5 Class, 5 Lab)

Disassembly and Reassembly:

- Hand Tools
- Vehicle Drop-Off
- Interior Trim Removal and Installation
- Exterior Part Removal and Installation
- Movable Panel Removable and Installation

Professional Skills: 3.A-E
Academic Standards:ELA.11-12.W.9 - ELA.11-12.L.4
Work-based Learning: School-Based Enterprise
Technical Standard: 2.1-2.12
I-Car Course: Disassembly and Reassembly

Unit 4 (22 Days - 8 Class, 14 Lab)

Aluminum and Steel Small Dent Removal:

- Small Dent Removal Overview
- Metal Working Tools
- Steel Panel Dent Removable
- Aluminum Panel Dent Removal
- Body Filler
- Paintless Dent Repair

CTSO Integration (Leadership Skills): SkillsUSA Fall Leadership Conference
Professional Skills: 1.A-D
Academic Standards: ELA.11-12.L.4 ,ELA.11-12.SL.4
Work-based Learning: Practice on Fenders, School-Based Enterprise.
Technical Standard: 3.1-3.12
I-Car Course: Aluminum and Steel Small Dent Removal
Simulated labs: Small Dents on Fenders

EPA 6H HAPS Certification

Unit 5 (10 Days - 5 Class, 5 Lab)

Plastic Repair

- Damage Analysis
- Initial Repairs
- Plastic Adhesive Repairs
- Plastic Welding Repairs

CTSO Integration (Leadership Skills): Competition Project Prep
Professional Skills: 1.A-D
Academic Standards:ELA.11-12.W.7
Work-based Learning: Student Practice fenders and Live Student-Based Enterprise.
Technical Standard: 5.1-5.10
I-Car Course: Plastic Repair
Simulated labs: Prepare and Repair Damaged Plastic Panels Using Heat and Proper Tools

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Unit 6 (10 Days - 5 Class, 5 Lab)

Preparation to Refinish
- Introduction to Refinishing
- Surface Preparation for Refinishing
- Refinish Equipment
- Primer Mixing and Application

CTSO Integration (Leadership Skills): Competition Project Prep
Professional Skills: 1.A-D
Academic Standards: ELA.11-12.W.7
Work-based Learning: Student Practice fenders and Live Student-Based Enterprise.
Technical Standard: 7.1-7.20
I-Car Course: Preparation for Refinish
Simulated labs: Spray pattern testing, Gun cleaning Techniques.

Unit 7 (10 Days - 5 Class, 5 Lab)

Refinishing:
- Refinishing Fundamentals
- Refinishing Applications
- Defect Removal
- Compressed Air Requirements
- Spray Gun setup and safety
- Spray technique
- Spray gun adjustment
- Spray equipment cleaning and maintenance

CTSO Integration (Leadership Skills): Competition Project Prep
Professional Skills: 1.A-D
Academic Standards: ELA.11-12.W.8 , ELA 11-12.W.9
Work-based Learning: School-Based Enterprise
Technical Standard: 8.1-8.3
I-Car Course: Refinishing
Simulated labs: Spray pattern testing, Gun cleaning Techniques, Paint and refinish (School-Based Enterprise)

Semester Exam

Year 1, Semester 2

AC102 - Auto Collision Repair II
(72 Days) (20 Class, 52 Lab, 72% Lab)

Unit 8 (15 Days - 5 Class, 10 Lab)

Outer Body Repairs, Replacement & Adjustments:

- Identify components
- Tools and procedures
- Panel adjustment procedures

Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.SL.4
Work-Based Learning: Job Shadow Experience
Technical Standard: 1.1-1.4

Unit 9 (14 Days - 5 Class, 9 Lab)

Attachment Methods:
- Tools
- GMA Welding
- GMA Steel
- MIG Brazing
- Spot Welds
- Spot Weld Removal
- GMA Aluminum
- Adhesives
- Rivits
- Hem Flanges

CTSO Integration (Leadership Skills): SkillsUSA Regional Conference
Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.SL.4
Work-Based Learning: School-Based Enterprise
Technical Standard: 1.1-1.15
I-Car Course: Attachment Methods

Unit 10 (5 Days - 5 Lab)

Job Shadow Experience Prep:
- Secure opportunity to observe industry practices

Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.SL.4 to ELA.11-12.SL.6

Work-Based Learning: Job Shadowing
Technical Standard
Simulated lab, Industry Partners

Unit 11 (33 Days - 5 Class, 28 Lab)

Paint Defects, Causes, and Cures:
- Paint Mixing, Matching, and Applying:
- Determine vehicle off-shade
- Paint mixing and scale procedures
- Paint matching and blending
- Paint Defects & determine causes
- Apply proper repair procedures

CTSO Integration (Leadership Skills): Skills Regional Conference and Preparation
Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.W.s
Work-Based Learning: School-Based Enterprise
Simulated Lab

Certifications: I-CAR Collision Fundamentals, Disassembly and Reassembly, Plastic Repair, Aluminum and Steel Small Dent Removal, Preparation for Refinish, Repair Planning, Refinishing, Measuring, Attachment Methods, Refinish Pro Level 1

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Year 2, Semester 1
AC201 - Auto Collision Repair III
(90 Days) (25 Class, 65 Lab, 72% Lab)

Unit 1 (10 Days - 5 Class, 5 Lab)

Safety, Tool Use, and Measurement:

- Measuring Tools
- Review of Proper Procedures
- Tool checkout and storage

CTSO Integration (Leadership Skills): Hold Officer Elections
Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA 11-12.L.4
Work-Based Learning: School-Based Enterprise
Technical Standards: 1.1-1.4
I-Car Course: Measuring

Unit 2 (10 Days - 5 Class, 5 Lab)

Welding Review:

- Welding consumables
- Welder setup and techniques

CTSO Integration (Leadership Skills): Competition Project Prep
Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.L,4
Work-Based Learning: School-Based Enterprise
Technical Standard: 5.1-5.10

Unit 3 (35 Days - 35 Lab)

Non-Structural and Refinishing Projects:

- Metal Welding and Cutting
- Removal and replacement of parts
- Non-structural replacement procedures
- Physical damage (direct/indirect)
- Repair/replacement of parts
- Paint Mixing, Matching and Applying:
- Determine vehicle off-shade
- Paint mixing and scale procedures
- Paint matching and blending
- Paint Defects & determine causes
- Apply proper repair procedures
- Perform Proper Paint Techniques
- Paint mixing and applications

Certification: ASE Non-Structural Analysis and Damage Repair, Painting and Refinishing
CTSO Integration (Leadership Skills): SkillsUSA Fall Conference
Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.L.4
Work-Based Learning: School-Based Enterprise
Technical Standards: 1.1-1.15, 2.1-2.12, 3.1-3.12, 6.1-6.7, 7.1-7.20, 12.1-12.6

Unit 4 (10 Days - 5 Class, 5 Lab)

Resume Writing and Career Pathways:

- Collision Education Scholarship

CTSO Integration (Leadership Skills): Competition Project Prep
Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.W4 to ELA.11-12.W.5
Work-Based Learning: Resumes and Mock Interviews
Simulated lab, Student services

Unit 5 (20 Days - 10 Class, 10 Lab)

Paint Mixing and Application:

- 2 & 3 Stage solvent-based
- Paint mixing and applications

CTSO Integration (Leadership Skills): CTSO Meeting
Professional Skills: 1.A-D; 2.A-C
Academic Standards: 5.NF.B.6, 6.RP.A.3,7.RP.A.3, G-GMD.A.3
Work-Based Learning: School-Based Enterprise

Unit 6 (5 Lab Days)

Job Shadow Experience Prep:

- Secure an opportunity to observe industry practices

Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.SL.4 toTo ELA.11-12.SL.6
Work-Based Learning: Job Shadowing

Semester Exam

Year 2, Semester 2
AC202 - Auto Collision Repair IV
(90 Days) (27 Class, 63 Lab, 70% Lab)

Unit 7 (15 Days - 7 Class, 8 Lab)

Paint Defects, Cures, Causes, and Detail:

- Determine imperfections
- Correct imperfections

CTSO Integration (Leadership Skills): SkillsUSA Regional Conference
Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.W.5 to ELA.11-12.L.4
Work-Based Learning: Job Shadow Experience (4 days)

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Unit 8 (10 Days- 5 Class, 5 Lab)

Damage Analysis/Estimation:

- Review handwritten estimates
- Computerized estimating (CCC)

Certification: ASE Non-Structural Analysis and Damage and Repair, Painting and Refinishing, Mechanical and Electrical Components, I-CAR Refinish Pro Level 1
CTSO Integration (Leadership Skills): Competition Project Prep
Professional Skills: 7.A-C; 9.A-C
Academic Standards: ELA.11-12.W.4,7-9, ELA.11-12.RI.7
Work-Based Learning: School-Based Enterprise
Technical Standard: 9.1-9.7, 10.1-10.5
Simulated Lab. Industry partner, CCC estimating

Unit 9 (8 Class Days)

Customer Service Skills:

- Communication skills
- Mock Scenarios

CTSO Integration (Leadership Skills): SkillsUSA State Conference
Professional Skills: 1. A-D; 2.A-C
Academic Standards: ELA.11-12.SL.3
Work-Based Learning: Mock Interview; Career Fair

Unit 10 (50 Days - 50 Lab)

Non-Structural and Refinishing Projects:

- Metal Welding and Cutting
- Removal and replacement of parts
- Non-structural replacement procedures
- Physical damage (direct/indirect)
- Repair/replacement of parts
- Paint Mixing, Matching, and Applying:
- Determine vehicle off-shade
- Paint mixing and scale procedures
- Paint matching and blending
- Paint Defects & determine causes
- Apply proper repair procedures
- Perform Proper Paint Techniques
- Paint mixing and applications

Certification: ASE Non-Structural Analysis and Damage Repair, Painting and Refinishing
CTSO Integration (Leadership Skills): SkillsUSA Fall Conference
Professional Skills: 1.A-D; 2.A-C
Academic Standards: ELA.11-12.L.4
Work-Based Learning: School-Based Enterprise
Technical Standards: 1.1-1.15, 2.1-2.12, 3.1-3.12, 6.1-6.7, 7.1-7.20, 12.1-12.6

Unit 11 (7 Class Days)

ADE End of Program Review:

- Review Technical Standards

CTSO Integration (Leadership Skills): SkillsUSA State Conference
Academic Standards: ELA.11-12.RI.2
Technical Standard: Covers All Standards

Certifications: I-CAR Structural, Mechanical, Electrical, Advanced Driver Assistance Systems, Electric and Alternative Energy Vehicles

ADE Technical Skills Assessment

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