

**Transportation, Distribution and Logistics Career Cluster
Painting and Refinishing II
Course Number 47.56700**

Course Description:

Painting and Refinishing II is the second course in the painting and refinishing strand of the Collision Repair Pathway and will provide students with skills and knowledge to assist in obtaining a career in the automotive refinishing industry. The student will learn theory, as well as hands-on application in a project-based setting. The prerequisite for this course is Painting and Refinishing I.

Course Standard 1

TDL-PR2-1

The following standard is included in all CTAE courses adopted for the Career Cluster/Pathways. Teachers should incorporate the elements of this standard into lesson plans during the course. The topics listed for each element of the standard may be addressed in differentiated instruction matching the content of each course. These elements may also be addressed with specific lessons from a variety of resources. This content is not to be treated as a unit or separate body of knowledge but rather integrated into class activities as applications of the concept.

Standard: Demonstrate employability skills required by business and industry.

The following elements should be integrated throughout the content of this course.

1.1 Communicate effectively through writing, speaking, listening, reading, and interpersonal abilities.

Person-to-Person Etiquette	Telephone and Email Etiquette	Cell Phone and Internet Etiquette	Communicating At Work	Listening
Interacting with Your Boss	Telephone Conversations	Using Blogs	Improving Communication Skills	Reasons, Benefits, and Barriers
Interacting with Subordinates	Barriers to Phone conversations	Using Social Media	Effective Oral Communication	Listening Strategies
Interacting with Co-workers	Making and Returning Calls		Effective Written Communication	Ways We Filter What We Hear
Interacting with Suppliers	Making Cold Calls		Effective Nonverbal Skills	Developing a Listening Attitude
	Handling Conference Calls		Effective Word Use	Show You Are Listening
	Handling Unsolicited Calls		Giving and Receiving Feedback	Asking Questions
				Obtaining Feedback
				Getting Others to Listen

Nonverbal Communication	Written Communication	Speaking	Applications and Effective Résumés
Communicating Nonverbally	Writing Documents	Using Language Carefully	Completing a Job Application
Reading Body Language and mixed Messages	Constructive Criticism in Writing	One-on-One Conversations	Writing a Cover Letter
Matching Verbal and Nonverbal communication		Small Group Communication	Things to Include in a Résumé
Improving Nonverbal Indicators		Large Group Communication	Selling Yourself in a Résumé

Georgia Department of Education

Nonverbal Feedback		Making Speeches	Terms to Use in a Résumé
Showing Confidence Nonverbally		Involving the Audience	Describing Your Job Strengths
Showing Assertiveness		Answering Questions	Organizing Your Résumé
		Visual and Media Aids	Writing an Electronic Résumé
		Errors in Presentation	Dressing Up Your Résumé

1.2 Demonstrate creativity by asking challenging questions and applying innovative procedures and methods.

Teamwork and Problem Solving	Meeting Etiquette
Thinking Creatively	Preparation and Participation in Meetings
Taking Risks	Conducting Two-Person or Large Group Meetings
Building Team Communication	Inviting and Introducing Speakers
	Facilitating Discussions and Closing
	Preparing Visual Aids
	Virtual Meetings

1.3 Exhibit critical thinking and problem solving skills to locate, analyze and apply information in career planning and employment situations.

Problem Solving	Customer Service	The Application Process	Interviewing Skills	Finding the Right Job
Transferable Job Skills	Gaining Trust and Interacting with Customers	Providing Information, Accuracy and Double Checking	Preparing for an Interview	Locating Jobs and Networking
Becoming a Problem Solver	Learning and Giving Customers What They Want	Online Application Process	Questions to Ask in an Interview	Job Shopping Online
Identifying a Problem	Keeping Customers Coming Back	Following Up After Submitting an Application	Things to Include in a Career Portfolio	Job Search Websites
Becoming a Critical Thinker	Seeing the Customer's Point	Effective Résumés:	Traits Employers are Seeking	Participation in Job Fairs
Managing	Selling Yourself and the Company	Matching Your Talents to a Job	Considerations Before Taking a Job	Searching the Classified Ads
	Handling Customer Complaints	When a Résumé Should be Used		Using Employment Agencies
	Strategies for Customer Service			Landing an Internship
				Staying Motivated to Search

1.4 Model work readiness traits required for success in the workplace including integrity, honesty, accountability, punctuality, time management, and respect for diversity.

Workplace Ethics	Personal Characteristics	Employer Expectations	Business Etiquette	Communicating at Work
Demonstrating Good Work Ethic	Demonstrating a Good Attitude	Behaviors Employers Expect	Language and Behavior	Handling Anger
Behaving Appropriately	Gaining and Showing Respect	Objectionable Behaviors	Keeping Information Confidential	Dealing with Difficult Coworkers
Maintaining Honesty	Demonstrating Responsibility	Establishing Credibility	Avoiding Gossip	Dealing with a Difficult Boss
Playing Fair	Showing Dependability	Demonstrating Your Skills	Appropriate Work Email	Dealing with Difficult Customers

Georgia Department of Education

Using Ethical Language	Being Courteous	Building Work Relationships	Cell Phone Etiquette	Dealing with Conflict
Showing Responsibility	Gaining Coworkers' Trust		Appropriate Work Texting	
Reducing Harassment	Persevering		Understanding Copyright	
Respecting Diversity	Handling Criticism		Social Networking	
Making Truthfulness a Habit	Showing Professionalism			
Leaving a Job Ethically				

1.5 Apply the appropriate skill sets to be productive in a changing, technological, diverse workplace to be able to work independently and apply team work skills.

Expected Work Traits	Teamwork	Time Management
Demonstrating Responsibility	Teamwork Skills	Managing Time
Dealing with Information Overload	Reasons Companies Use Teams	Putting First Things First
Transferable Job Skills	Decisions Teams Make	Juggling Many Priorities
Managing Change	Team Responsibilities	Overcoming Procrastination
Adopting a New Technology	Problems That Affect Teams	Organizing Workspace and Tasks
	Expressing Yourself on a Team	Staying Organized
	Giving and Receiving Constructive Criticism	Finding More Time
		Managing Projects
		Prioritizing Personal and Work Life

1.6 Present a professional image through appearance, behavior and language.

On-the-Job Etiquette	Person-to-Person Etiquette	Communication Etiquette	Presenting Yourself
Using Professional Manners	Meeting Business Acquaintances	Creating a Good Impression	Looking Professional
Introducing People	Meeting People for the First Time	Keeping Phone Calls Professional	Dressing for Success
Appropriate Dress	Showing Politeness	Proper Use of Work Email	Showing a Professional Attitude
Business Meal Functions		Proper Use of Cell Phone	Using Good Posture
Behavior at Work Parties		Proper Use in Texting	Presenting Yourself to Associates
Behavior at Conventions			Accepting Criticism
International Etiquette			Demonstrating Leadership
Cross-Cultural Etiquette			
Working in a Cubicle			

Support of CTAE Foundation Course Standards and Georgia Standards of Excellence L9-10RST 1-10 and L9-10WHST 1-10:

Georgia Standards of Excellence ELA/Literacy standards have been written specifically for technical subjects and have been adopted as part of the official standards for all CTAE courses.

Course Standard 2

TDL-PR2-2

Demonstrate compliance with personal and environmental safety practices in accordance with local, state, and environmental regulations.

- 2.1 Identify and describe taking necessary precautions with hazardous operations and materials according to federal state and local regulations.
- 2.2 Identify and explain safety and personal health hazards according to Occupational Safety and Health Administration (OSHA) guidelines and the "Right to Know" Law.
- 2.3 Inspect and describe spray environments to ensure compliance with federal, state, and local regulations, and for safety and cleanliness hazards.
- 2.4 Select and use the National Institute for Occupational Safety and Health (NIOSH)-approved cartridge respirator to inspect conditions and ensure fit and operations required for performing proper maintenance in accordance with OSHA regulations.
- 2.5 Select and use the NIOSH-approved (fresh air make-up system) to perform proper maintenance in accordance to OSHA regulations.
- 2.6 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.).

Course Standard 3

TDL-PR2-3

Explore and demonstrate paint mixing, matching and applying techniques.

- 3.1 Explore and perform explain various types of automotive paint.
- 3.2 Determine typical locations of vehicle information plates or labels.
- 3.3 Identify and describe the type and color code by manufacturer's vehicle information label.
- 3.4 Identify and explain thinners and reducers for specific materials.
- 3.5 Demonstrate the proper procedure to shake, stir, reduce, catalyze/activate, and strain refinish materials.
- 3.6 Demonstrate and explain applying finish using appropriate spray techniques (gun arc, gun angle, gun distance, gun speed, and spray pattern overlap).
- 3.7 Demonstrate and explain applying selected product on test and let down panel and checking for color match.
- 3.8 Demonstrate and explain the proper procedure to apply a single stage topcoat.
- 3.9 Demonstrate and explain the proper procedure to apply a basecoat/clear coat for blending or panel refinishing.
- 3.10 Demonstrate and explain the proper procedure to apply a basecoat/clear coat for overall refinishing.
- 3.11 Demonstrate and explain the proper procedure to remove nibs or imperfections from basecoat.
- 3.12 Demonstrate and explain the proper procedure to refinish rigid or semi-rigid and plastic parts.
- 3.13 Demonstrate and explain the proper procedure to refinish flexible plastic parts.
- 3.14 Demonstrate and explain the proper procedure to apply multi-stage coats for panel blending or overall refinishing.
- 3.15 Identify and perform the proper procedure to mix paint using a formula.
- 3.16 Identify and perform the necessary action required to correct poor hiding colors.
- 3.17 Identify and perform the proper procedure to tint color using formula to achieve blendable match.

- 3.18 Identify and perform the proper procedure for alternative color formulas to achieve blendable match.
- 3.19 Recognize the effects of light, position, and depth perception to include angles related to color determination.
- 3.20 Compare the materials, equipment and preparation differences between solvent and waterborne technologies.

Course Standard 4

TDL-PR2-4

Determine paint defect causes.

- 4.1 Identify blistering (raining of the paint surface, air entrapment) and determine the probable cause.
- 4.2 Identify blushing (milky or hazy formation) and determine probable causes.
- 4.3 Identify a dry spray appearance in the paint surface and determine the probable causes.
- 4.4 Identify the presence of fish-eyes (cater like openings) in the finish and the probable causes.
- 4.5 Identify lifting and the probable causes.
- 4.6 Identify clouding (mottling and streaking in metallic finishes) and determine the probable causes.
- 4.7 Identify orange peel and determine the probable causes.
- 4.8 Identify solvent popping in freshly painted surfaces and determine probable causes.
- 4.9 Identify sags and runs in the paint surface and determine the probable causes.
- 4.10 Identify sanding marks and sand scratch swelling and determine the probable causes.
- 4.11 Identify contour mapping/edge mapping while the finish is drying and determine the probable causes.
- 4.12 Identify color differences (off shade) and determine the probable causes.
- 4.13 Identify tape tracking and determine the probable causes.
- 4.14 Identify low gloss conditions and determine the probable causes.
- 4.15 Identify poor adhesion and determine the probable causes.
- 4.16 Identify paint cracking (shrinking, splitting, crowsfeet or line checking, micro checking, etc.) and determine the probable causes.
- 4.17 Identify corrosion and determine the probable causes.
- 4.18 Identify dirt or dust in the paint surface and determine the probable causes.
- 4.19 Identify water spotting and determine the probable causes.
- 4.20 Identify and explain the finish damage caused by bird droppings, tree sap, and other natural causes.
- 4.21 Identify and explain the finish damage caused by airborne contaminants (acids, soot, rail dust, and other industrial related causes).
- 4.22 Identify dieback conditions (dulling of the paint film showing haziness) and determine the probable causes.
- 4.23 Identify chalking (oxidation) and determine the probable causes.
- 4.24 Identify bleed-through (staining) and determine the probable causes.
- 4.25 Identify pin-holing and determine the probable causes.
- 4.26 Identify and describe buffing related imperfections (swirl marks, wheel burns).
- 4.27 Identify pigment floatation (color change through film build) and determine the probable causes.

Course Standard 5

TDL-PR2-5

Identify paint defect cures and practice various correction techniques.

- 5.1 Identify blistering (raining of the paint surface, air entrapment) and perform correction procedures.
- 5.2 Identify blushing (milky or hazy formation) and perform correction procedures.
- 5.3 Identify a dry spray appearance in the paint surface and perform correction procedures.
- 5.4 Identify the presence of fish-eyes (cater like openings) in the finish and perform correction procedures.
- 5.5 Identify the lifting condition and perform correction procedures.
- 5.6 Identify clouding (mottling and streaking in metallic finishes) and perform correction procedures.
- 5.7 Identify the orange peel condition and perform correction procedures.
- 5.8 Identify the solvent popping condition in freshly-painted surfaces and perform correction procedures.
- 5.9 Identify sags and runs in the paint surface and perform correction procedures.
- 5.10 Identify sanding marks and sand scratch swelling and perform correction procedures.
- 5.11 Identify contour mapping/edge mapping while the finish is drying and perform necessary procedures.
- 5.12 Identify color differences (off shade) and perform correction procedures.
- 5.13 Identify tape tracking and perform correction procedures.
- 5.14 Identify low gloss conditions and perform correction procedures.
- 5.15 Identify poor adhesion and perform correction procedures.
- 5.16 Identify paint cracking (shrinking, splitting, crowsfeet or line checking, micro checking, etc.) and perform correction procedures.
- 5.17 Identify corrosion and perform correction procedures.
- 5.18 Identify dirt or dust in the paint surface and perform correction procedures.
- 5.19 Identify water spotting and perform correction procedures.
- 5.20 Identify the finish damage caused by bird droppings, tree sap, and other natural causes and perform the correction procedures.
- 5.21 Identify the finish damage caused by airborne contaminants (acids, soot, rail dust, and other industrial related causes) and perform correction procedures.
- 5.22 Identify dieback conditions (dulling of the paint film showing haziness) and perform the correction procedures.
- 5.23 Identify chalking (oxidation) and perform the correction procedures.
- 5.24 Identify bleed-through (staining) and perform the correction procedures.
- 5.25 Identify pin-holing and perform the correction procedures.
- 5.26 Identify buffing-related imperfections (swirl marks, wheel burns) and perform the correction procedures.
- 5.27 Identify pigment floatation (color change through film build) and perform the correction procedures.

Course Standard 6

TDL-PR2-6

Perform final detailing procedures.

- 6.1 Identify and demonstrate the proper procedures to apply decals, transfers, tape, woodgrains, pinstripes (painted and taped) to vehicles.
- 6.2 Identify and demonstrate the proper procedures to sand, buff, and polish fresh or existing finish to remove defects, as required.
- 6.3 Identify and demonstrate cleaning the interior, exterior and the glass of the vehicle.

- 6.4 Describe and demonstrate the proper procedures to clean all body openings (door jambs and edges, etc.).
- 6.5 Describe and demonstrate the proper procedure to remove overspray.
- 6.6 Summarize and perform vehicle clean-up and completing quality control using a checklist.

Course Standard 7

TDL-PR2-7

Examine how related student organizations are integral parts of career and technology education courses through leadership development, school and community service projects and competitive events.

- 7.1 Explain the purpose, mission, objectives, motto, colors, official dress and other distinguishing characteristics of SkillsUSA.
- 7.2 Explain how participation in SkillsUSA can promote lifelong responsibility for community service, professional growth and development.
- 7.3 Explore the impact and opportunities SkillsUSA can develop to bring business and industry together with education in a positive working relationship through innovative leadership and career development programs.
- 7.4 Explore the local, state, and national opportunities available to students through participation in SkillsUSA including but not limited to conferences, competitions, community service, philanthropy, and other SkillsUSA activities.