

**SOUTHEAST COMMUNITY COLLEGE
TRANSPORTATION OCCUPATIONS
AUTO COLLISION REPAIR TECHNOLOGY
COURSE SYLLABUS
January 5, 2024**

I. CATALOG DESCRIPTION

Course Number: AUTB1152
Course Title: Collision Repair & Refinish Theory I
Prerequisite(s): None

Catalog Description: Theory of repair processes using basic hand tools and progressing into use of power tools, filler materials, to include theory of metal repairs including the study of metal properties and damage classification. Vehicle disassembly, reassembly, and panel adjustment including corrective forces used to restore damaged components to original dimensions and contours. These processes involved in repairing minor non-structural automotive body panels as well as automobile body panel alignment following a sequence to include surface preparation operations needed to acquire a durable, high quality, long lasting topcoat. Paint gun care, troubleshooting and proper usage in applying primer surfacer. Material safety data sheet information to follow EPA and OSHA standards.

Credit Hour: 4.5
Classroom Hours: 60
Lab Hours: 23
Total Contact Hours: 83

II. COURSE OBJECTIVES: *Course will:*

- A. Cover preventive maintenance procedures of the tools and equipment used in collision repair.
- B. Cover identification and repair of all non-structural damages according to factory recommendations using various types of repair processes.
- C. Cover the proper sectioning procedures that they will be utilizing during the repair process in accordance to manufacturers recommendations.
- D. Cover the proper cosmetic repair procedures that they will be utilizing during the repair process in accordance to manufacturers recommendations.
- E. Cover safety aspects of each tool and piece of equipment used in the collision repair industry.
- F. Cover the cleaning and preparation of vehicles for delivery following repairs including, choosing type of material needed for project completion.
- G. Cover the types of refinishing materials.
- H. Cover the types of preparation materials.
- I. Cover the different types of paint application tools, their respective parts, and problems.
- J. Cover the procedures for quality surface preparation before top coating with color.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

A. STUDENT LEARNING OUTCOMES: *The student will be able to:*

- 1. Maintain tools and equipment used in the collision repair industry.
- 2. Identify and repair vehicles following industry standards using tools and equipment that are used in the collision repair industry.

3. Use tools and equipment in a safe manner.
4. Disassemble vehicle body components
5. Reassemble and adjust body panels for a quality fit and finish
6. Identify a refinish system and select the proper preparation procedures.
7. Select the required preparation materials.
8. Determine the different types of paint application tools, identify their respective parts, and troubleshoot problems in the equipment.
9. Identify the substrate and then select the proper surface preparation procedures spray equipment and use proper techniques prior to the topcoat application.
10. Mix undercoat materials according to product data sheets and apply primer surfacer and select proper sand paper for initial primer sanding operations.

B. GENERAL EDUCATION LEARNING OUTCOMES:

GELO #3: Critical Thinking & Problem Solving

Outcomes:

1. Collect, identify, interpret and analyze data.
2. Synthesize information to arrive at reasoned solutions to problems.
3. Evaluate ideas presented in writing, medial, speech, or artistic presentations.
4. Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.
5. Acquire and integrate knowledge and construct relationships across disciplines.

IV. CONTENT/TOPICAL OUTLINE

- A. Course Introduction
- B. Safety
- C. Repair Procedures, and component disassembly and reassembly
- D. Paint System Warrantees
- E. Abrasives, masking, primer and primer surfacer
- F. Paint Spray Guns
- G. Preparation Procedure

V. INSTRUCTIONAL MATERIALS

Required Text(s):

Auto Body Repair Technology 6th Edition Text. Copyright 2015 ISBN-13: 978-1133702856, ISBN-10: 113370285

Other Resources:

Outside Reading/Research Required:

Step by Step Paint System Mockup Metal Treatment Examples
 Paint Gun Cutaway Mil Thickness Gauges
 Various Paint Gun Examples Various Masking Materials
 Various Sanding Materials
 Computer/Multimedia Projector Videos/DVD
 Various Product Information Bulletin Sheets (DuPont and PPG)

Student Required Material:

Notebook
 Pen or Pencil

Textbook pages will be assigned according to the class schedule. Research on state of the art equipment or procedures as assigned by the instructor.

VI. METHODS OF PRESENTATION / INSTRUCTION

A. Methods of presentation typically include a combination of the following:

1. Lecture
2. Small and large group discussion
3. Video presentation
4. Transparencies
5. Demonstrations
6. Project boards
7. Flip charts
8. Handouts
9. Observations
10. Assigned lab projects
11. Field trips

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:

1. Notebook (if required)
2. Quizzes
3. Tests
4. Attendance/class conduct
5. Homework assignments (see course information document)

Letter grades will be based on the SCC Standard Grade Scale Policy. **Note:** See course information document for specific details on how the course grades will be calculated.

VIII. SPECIFIC COURSE REQUIREMENTS

A. Student must:

1. Completion of all tests, projects, assignments, and notebook (if required).
2. Earn a final grade of 60% or higher.

B. Attendance:

1. Students must follow the Attendance Policy as stated in the college student handbook and the Auto Collision Repair Technology Attendance Policy.

C. Program shop safety rules will be followed.

D. Please see the course information document for any additional safety rules established by the instructor.