

SAN DIEGO COMMUNITY COLLEGE DISTRICT
CONTINUING EDUCATION
COURSE OUTLINE

SECTION I

SUBJECT AREA AND COURSE NUMBER

AUTO 411A

COURSE TITLE

AUTO BODY REFINISHING TECH

TYPE COURSE

NON-FEE

VOCATIONAL

CATALOG COURSE DESCRIPTION

This open-entry/exit certified training course is designed to teach skills required for entry-level employment in auto body refinishing and related industries. This course includes guided practice in a simulated work environment, in sanding, masking, detailing, spot painting, and complete body painting. Course competencies are based on standards developed by the National Automotive Technicians Education Foundation (NATEF) and the Inter-Industry Conference on Auto Collision Repair (I-CAR) standards. (FT)

LECTURE HOURS

60

LABORATORY HOURS

240

ADVISORY

NONE

RECOMMENDED SKILL LEVEL

Sixth grade reading level, ability to communicate effectively in the English language and knowledge of general math.

INSTITUTIONAL STUDENT LEARNING OUTCOMES

1. Social Responsibility
SDCE students demonstrate interpersonal skills by learning and working cooperatively in a diverse environment.
2. Effective Communication
SDCE students demonstrate effective communication skills.

INSTITUTIONAL STUDENT LEARNING OUTCOMES (CONTINUED)

3. Critical Thinking
SDCE students critically process information, make decisions, and solve problems independently or cooperatively.
4. Personal and Professional Development
SDCE students pursue short term and life-long learning goals, mastering necessary skills and using resource management and self advocacy skills to cope with changing situations in their lives.

COURSE GOALS

This course will provide instruction in current methods and practices refinishing and painting used in the auto body and refinishing industry. Students will develop the critical thinking skills, necessary to diagnose and repair paint related problems. Academic instruction is integrated in order to enhance the students' reading, writing math and communication skills, enabling them to interact successfully with future employers and customers. Activities will take place in a simulated work environment representative of those encountered in the auto body refinishing industry today. This experience will include instruction in common business practices, ethics and integrity. Students who successfully complete the course will be qualified for entry-level positions in the auto body refinishing industry.

COURSE OBJECTIVES

Students will demonstrate through practical applications, written and oral exams, their ability to:

1. Apply general safety practices in addition to the specific procedures related to the auto refinishing industry.
2. Analyze and evaluate waste products from the repair task and dispose of the residue or trash according to Federal, State and Local rules and regulations.
3. Understand the use and safety requirements of all solvents used in refinishing applications.
4. Use the information from service manuals, charts, tables, graphs or databases, to determine manufacturer's specifications for systems operations and the appropriate refinishing procedures.
5. Select and properly use the correct hand and power tools to refinish the auto body/collision damage.
6. Convert measurements, as necessary, when U.S. Standard or Metric specifications.
7. Explain how fillers and finishes adhere to metals.
8. Demonstrate correct use of materials and application processes necessary to refinish an auto body to factory specifications.
9. Demonstrate professional ethics, personal integrity, good business practices and customer relation skills, meeting the standards of the California Department of Consumer Affairs.

SECTION II

COURSE CONTENT AND SCOPE

All modules of the program contain the following:

1. Safety Review
2. System Descriptions
3. Theory of Operation
4. Component Functions
5. Diagnostic Procedures
6. System – Component Repair Procedures
7. Related Terminology and Communication Skills

Math review for this unit will cover the following areas: addition, subtraction, multiplication and division of whole numbers, fractions and decimals; linear measurements; degrees and angles; the metric system; reading gauges; temperature measurement; and weight and mass measures.

MODULE I

SAFETY AND ORIENTATION

5 hrs.

1. Program Orientation
 - 1.1. Syllabus
 - 1.2. Overview of the auto collision and refinishing industry
 - 1.2.3 Management structure
 - 1.2.4 Finances
 - 1.2.5 Labor issues
2. Facilities Orientation
 - 2.1. Safety equipment
 - 2.2. Types
 - 2.3. Locations
3. Common Types of Injuries
 - 3.1. Burns
 - 3.2. Asbestos hazards
 - 3.3. Chemical hazards
 - 3.4. Vapors/inhalation hazards
4. Tool Safety
5. Fire Safety
6. Batteries
 - 6.1. Charging
 - 6.2. Use of jumper cables
7. Material Safety Data Sheets (MSDS)
8. Hybrid/Electric Vehicle Safety Procedures

COURSE CONTENT AND SCOPE (CONTINUED)

MODULE II 10 hrs.
PREPARATION

NOTE: Preparation is an ongoing activity and is re-enforced throughout all units.

1. Interpret Damage Report
2. Plan Repair Surface
3. Prepare Repair Surface
 - 3.1. Removal of dirt, wax corrosion protection
4. Protecting Panels and Adjacent Areas

MODULE III 35 hrs.
INTRODUCTION TO REFINISHING

1. Environmental Laws and Regulations
 - 1.1. EPA
 - 1.2. State
 - 1.3. Local
 - 1.4. Low VOC regulations and technology
2. OSHA Guidelines
 - 2.1. Personal health and safety
 - 2.2. Right to know
3. Personal Safety
 - 3.1. Selection of appropriate
 - 3.1.1. Equipment
 - 3.1.2. Clothing
 - 3.2. Inspection of equipment and clothing
4. Automotive Finishes
 - 4.1. Identifying and distinguishing various finish systems
 - 4.2. Selecting correct finish system and system parts

MODULE IV 115 hrs.
PREPARATION FOR REFINISHING

1. Identifying Paint Type
2. Identifying Paint Color
3. Determine Correct Refinishing System
4. Techniques for Paint Removal
5. Cleaning Surface
6. Featheredging
7. Applying
 - 7.1. Metal treatment
 - 7.2. Sealers
 - 7.3. Primers
 - 7.4. Primer-surfacer

COURSE CONTENT AND SCOPE (CONTINUED)

8. Block Sanding
9. Applying Caulking and Seam Sealers
10. Chip Resistant Finish
11. Masking Vehicle
12. Preparing Equipment
 - 12.1. Mixing equipment
 - 12.2. Air supply
 - 12.3. Spray gun
 - 12.3.1. Set up
 - 12.3.2. Testing
 - 12.3.3. Spray patterns

MODULE V
REFINISHING

100 hrs.

1. Preparing Surface for Topcoat System
2. Applying Finish
 - 2.1. Primer sealer coat
 - 2.2. Single stage finish
 - 2.3. Applying basecoat/clearcoat finish
 - 2.4. Tri-coat finish
 - 2.5. Blending adjacent panels
3. Solving Application Problems
 - 3.1. Contamination
 - 3.2. Spraying techniques
 - 3.3. Improper drying and curing
4. Identify Finish Defects
 - 4.1. Paint film defects
 - 4.1.1. Causes
 - 4.1.2. Repair
 - 4.2. Surfaces defects
 - 4.2.1. Causes
 - 4.2.2. Repair
5. Color Sanding & Buffing

MODULE VI
DETAILING

20 hrs.

1. Overspray
2. Final Finishing
3. Exterior Cleaning
4. Interior Cleaning
5. Decals
6. Striping

COURSE CONTENT AND SCOPE (CONTINUED)

MODULE VII

15 hrs.

BUSINESS PROCEDURES & CUSTOMER RELATIONS

1. Business Conduct and Ethics
 - 1.1. Consumer affairs
2. Repair Orders and Job Scheduling
3. Phone Skills
4. Oral and Written Communications
5. Keyboarding Skills and Computer Literacy for Use in this Field

APPROPRIATE READINGS

Dupont Refinishing News, monthly magazine

Auto Body News, monthly magazine

I Car Advantage, monthly magazine

San Diego Craftsman, California Autobody Association, monthly publication

WRITING ASSIGNMENTS

Typical writing assignments may include but are not limited to:

1. Completing assigned reports.
2. Providing written answers to assigned questions.
3. Performing arithmetic calculations as assigned.
4. Completing repair orders.
5. Completing job application and resume.

OUTSIDE ASSIGNMENTS

Students are expected to spend a minimum of 1 hour per day outside of class in practice and preparation for each day in class. Appropriate assignments may include, but are not limited to:

1. Appropriate readings.
2. Preparing research reports.
3. Preparing appropriate writing assignments.
4. Studying as needed to perform successfully in class.

APPROPRIATE ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING

Students will perform analysis and evaluation of reading and/or classroom materials and utilize this analysis in classroom discussions, writing assignments, and in performing laboratory activities. Students must select and use appropriate methods and materials needed to complete laboratory assignments.

EVALUATION

A student's grade will be based on multiple measures of performance. The assessment will measure the development of independent critical thinking skills and will include evaluation of the student's ability to:

1. Perform the manipulative skills of the craft, as required, to NATEF and I-CAR standards.
2. Apply theory to laboratory assignments.
3. Perform on written, oral, or practical examinations.
4. Contribute to class discussions.
5. Maintain attendance per current policy.

Satisfactory completion of the course requires completion of a culminating activity, which may include, but is not limited to, one of the following:

1. Written report.
2. Classroom presentation.
3. Research project.
4. Industry involvement.

The culminating activity will require the student to use the new skills that he/she acquired during the course.

The student will receive an evaluation at the end of each Unit or when requested by student.

A grade point average of 2.0 or letter grade of C or better must be achieved for satisfactory completion.

Upon successful completion of each individual course a Certificate of Course Completion will be issued. Upon successful completion of all courses included in the program a Certificate of Program Completion will be issued.

METHOD OF INSTRUCTION

Classroom lectures, demonstrations, laboratory, audio-visual presentations and computer assisted instruction. Group and individual instruction. Field trips, job shadowing and intern/externships may be utilized.

TEXTS AND SUPPLIES

Texts:

Required Supplies:

Air Bow Gun and Connector
Rubber Spreader
Plastic Spreader (3 PC set)
Safety Glasses

TEXTS AND SUPPLIES (CONTINUED)

Rubber Sanding Block
Particle Mask
Soft Sanding Pad
OSHA approved Respirator

PREPARED BY Jose Alvarez/David Bouchey DATE March 19, 1997

REVISED BY Edward G Nugent DATE February 20, 2007

REVISED BY David Bouchey DATE March 14, 2011

Instructors must meet all requirements stated in Policy 3100 (Student Rights, Responsibilities and Administrative Due Process), and the Attendance Policy set forth in the Continuing Education Catalog.

REFERENCES:

San Diego Community College District Policy 3100
California Community Colleges, Title 5, Section 55002
Continuing Education Catalog