CENTRAL CAROLINA COMMUNITY COLLEGE

Program Planning Guide
Automotive RestorationTechnology Diploma, D60140

Program Length: 3 semesters
Career Pathway Options: Diploma in Automotive Restoration Technology
Program Site/s: West Harnett Center

Suggested Course Schedule:

		Hours				
		Class	Lab	Clinical	Credit	Notes:
1st Semester (Fall)						
ARS 118	Wood & Metal Restoration	2	2	0	3	16 week class
AUB 131	Structural Damage I	2	4	0	4	16 week class
TRN 110	Intro to Transport Tech	1	2	0	2	8 week class
TRN 120	Basic Transp Electricity	4	3	0	5	16 week class
TRN 180	Basic Welding for Transp.	1	4	0	3	16 week class
					17	
2nd Semester (Spring)						
ARS 112	Auto Restoration Research	3	0	0	3	8 week class
ARS 117	Automotive Engines	1	3	0	2	16 week class
AUB 111	Painting & Refinishing I	2	6	0	4	8 week class
AUB 112	Painting & Refinishing II	2	6	0	4	8 week class
AUB 121	Non-structural Damage I	1	4	0	3	16 week class
ENG 102	Applied Communications II	3	0	0	3	
					19	
3rd Semester (Summer)						
ARS 113	Automobile Upholstery	2	4	0	4	8 week class
ARS 114	Restoration Skills I	2	4	0	4	8 week class
Take one course from:						
MAT 110	Math Measurement & Literacy	2	2	0	3	
PHY 121	Applied Physics I	3	2	0	4	
					11/12	

Total Semester Hours Credit Required for Graduation: 47

ARS 112 Auto Restoration Research 3-0-3
This course covers identification and collection of information needed to restore classic automobiles. Emphasis is placed on using books, numbers, emblems, titles, bills of sale, and other documents as resources. Upon completion, students should be able to use reference materials in the area of auto restoration to restore classic vehicles.

ARS 113 Automobile Upholstery 2-4-4
This course covers automobile upholstery work used in restoration of classic automobiles. Emphasis is placed on removing, repairing, or reconstructing worn/damaged upholstery material in classic automobiles. Upon completion, students should be able to disassemble, repair/reconstruct, or replace the seats, headliners, door panels, and other components in the interior of vehicles.

ARS 114 Restoration Skills I 2-4-4
Corequisites: Take all: ARS 113, ARS 117, ARS 131 & TRN 120
This course covers mechanical, electrical, and upholstery restoration. Emphasis is placed on engines, transmissions, brakes, starters, generators, distributors, and replacement or fabrication of upholstery. Upon completion, students should be able to restore, rebuild, or replace specific components in a wide range of classic vehicles.

ARS-117 Automotive Engines 1-3-2
This course covers the repair, rebuilding, and troubleshooting of internal combustion engines. Emphasis is placed on use of tools and equipment to measure reconditioning tolerances of the internal combustion engine. Upon completion, students should be able to disassemble, repair and/or replace, and reassemble an internal combustion engine.

ARS-118 Wood & Metal Restoration 2-2-3
This course introduces various wood materials used in early automobile construction including a general overview of woodworking techniques. Emphasis is placed on wood material, metal behavior, and trim construction. Upon completion, students should be able to perform simple woodworking techniques, attach and remove trim, and be familiar with basic hardware techniques.

AUB-111 Painting & Refinishing I 2-6-4
This course introduces the proper procedures for using automotive refinishing equipment and materials in surface preparation and application. Topics include federal, state, and local regulations, personal safety, refinishing equipment and materials, surface preparation, masking, application techniques, and other related topics. Upon completion, students should be able to identify and use proper equipment and materials in refinishing following accepted industry standards.

AUB-112 Painting & Refinishing II 2-6-4
Prerequisite: Take AUB-111
This course covers advanced painting techniques and technologies with an emphasis on identifying problems encountered by the refinishing technician. Topics include materials application, color matching, correction of refinishing problems, and other related topics. Upon completion, students should be able to perform spot, panel, and overall refinishing repairs and identify and correct refinish problems.

AUB-121 Non-Structural Damage I 1-4-3
This course introduces safety, tools, and the basic fundamentals of body repair. Topics include shop safety, damage analysis, tools and equipment, repair techniques, materials selection, materials usage, and other related topics. Upon completion, students should be able to identify and repair minor direct and indirect damage including removal/repairing/replacing of body panels to accepted standards.

AUB-131 Structural Damage I 2-4-4
This course introduces safety, equipment, structural damage analysis, and damage repairs. Topics include shop safety, design and construction, structural analysis and measurement, equipment, structural glass, repair techniques, and other related topics. Upon completion, students should be able to analyze and perform repairs to a vehicle which has received light/moderate structural damage.

TRN-110 Intro to Transport Tech 1-2-2
This course covers workplace safety, hazardous materials, environmental regulations, hand tools, service information, basic concepts, vehicle systems, and common transportation industry terminology. Topics include familiarization with major vehicle systems, proper use of various hand and power tools, material safety data sheets, and personal protective equipment. Upon completion, students should be able to demonstrate appropriate safety procedures, identify and use basic shop tools, and describe government regulations regarding transportation repair facilities.

TRN-120 Basic Transp Electricity 4-3-5
This course covers basic electrical theory, wiring diagrams, test equipment, and diagnosis, repair and replacement of batteries, starters, and alternators. Topics include Ohm's Law, circuit construction, wiring diagrams, circuit testing, and basic troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose,

test, and repair basic wiring, battery, starting, charging, and electrical concerns.

TRN-180 Basic Welding for Transp 1-4-3
This course covers the terms and procedures for welding various metals used in the transportation industry with an emphasis on personal safety and environmental health. Topics include safety and precautionary measures, setup/operation of MIG equipment, metal identification methods, types of welds/joints, techniques, inspection methods, cutting processes and other related issues. Upon completion, students should be able to demonstrate a basic knowledge of welding operations and safety procedures according to industry standard.

ENG-102 Applied Communications II 3-0-3
This course is designed to enhance writing and speaking skills for the workplace. Emphasis is placed on generating short writings such as job application documents, memoranda, and reports and developing interpersonal communication skills with employees and the public. Upon completion, students should be able to prepare effective, short, and job-related written and oral communications.

MAT 110 Math Measurement & Literacy 2-2-3
Corequisite: MAT 010
Local RISE corequisites: MAT 010; Local RISE Prerequisites: Take one group: 1) MAT 003 P1; 2) DMA 010, DMA 020, DMA 030; 3) MAT 060; 4) DMA 025
This course provides an activity-based approach that develops measurement skills and mathematical literacy using technology to solve problems for non-math intensive programs. Topics include unit conversions and estimation within a variety of measurement systems; ratio and proportion; basic geometric concepts; financial literacy; and statistics including measures of central tendency, dispersion, and charting of data. Upon completion, students should be able to demonstrate the use of mathematics and technology to solve practical problems, and to analyze and communicate results.

PHY-110 Conceptual Physics 3-0-3
This course provides a conceptually-based exposure to the fundamental principles and processes of the physical world. Topics include basic concepts of motion, forces, energy, heat, electricity, magnetism, and the structure of matter and the universe. Upon completion, students should be able to describe examples and applications of the principles studied.

PHY-110A Conceptual Physics Lab 0-2-1
This course is a laboratory for PHY 110. Emphasis is placed on laboratory experiences that enhance materials presented in PHY 110. Upon completion, students should be able to apply the laboratory experiences to the concepts presented in PHY 110.