Transportation Systems Technologies

Collision Repair and Refinishing Technology
Credential: Diploma in Collision Repair and Refinishing Technology
D60130

A program that prepares individuals to apply technical knowledge and skills to repair, reconstruct and finish automobile bodies, fenders, and external features. Includes instruction in structure analysis, damage repair, non-structural analysis, mechanical and electrical components, plastics and adhesives, painting and refinishing techniques, and damage analysis and estimating.

Program Length: 2 Semesters
Career Pathway Options: Diploma, Collision Repair and Refinishing Technology
Program Sites: West Harnett Center

Course requirements for Collision Repair and Refinishing Technology

1. General Education Requirements (6 SHC)   C-L-SHC

ENG 102	Applied Communication II	3-0-3

Mathematics; Take 3 SHC:

MAT 110	Math Measurement & Literacy	2-2-3
PHY 110	Conceptual Physics	3-0-3
PHY 110A	Conceptual Physics Lab	0-2-1
PHY 121	Applied Physics I	3-2-4

2. Major Requirements (25 SHC)

AUB 111	Painting & Refinishing I	2-6-4
AUB 112	Painting & Refinishing II	2-6-4
AUB 121	Non-Structural Damage I	1-4-3
AUB 131	Structural Damage I	2-4-4
TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	4-3-5
TRN 180	Basic Welding for Transp	1-4-3

3. Other Major Requirements (8 SHC)

AUB 162	Autobody Estimating	1-2-2
AUB 114	Special Finishes	1-2-2
TRN 140	Transp Climate Control	1-2-2
TRN 140A	Transp Climate Cont Lab	1-2-2

Total Semester Hours Credit required for graduation: 40

Automotive Restoration Technology
Credential: Diploma in Automotive Restoration Technology
D60140

The Automotive Restoration Technology curriculum is designed to provide individuals with the competencies needed to work in the automotive restoration industry. The program prepares individuals to apply technical knowledge and skills to repair, reconstruct, finish and restore automobile bodies, fenders, and external features of a wide range of classic vehicles that typically are at least 35 years old. It includes instruction in internal combustion engines, transmissions, brakes, restoring original sheet metal, upholstery, and wood components, rebuilding starters, generators, and painting and refinishing techniques.

Graduates of the curriculum should qualify for entry-level employment opportunities in the automotive restoration industry.

Program Length: 3 semesters
Career Pathway Options: Diploma in Automotive Restoration Technology
Program Sites: Lee Main Campus - Day Program

Course Requirements for Automotive Restoration Technology Diploma

1. General Education Requirements (6 SHC)   C-L-SHC

ENG 102	Applied Communication II	3-0-3

Take one:

MAT 110	Math Measurement & Literacy	2-2-3
PHY 121	Applied Physics I	3-2-4

2. Major Requirements (18 SHC)

TRN 110	Intro to Transport Tech	1-2-2
TRN 180	Basic Welding for Transp	1-4-3
ARS 112	Auto Restoration Research	3-0-3
ARS 113	Automotive Upholstery	2-4-4
ARS 114	Restoration Skills I	2-4-4
ARS 117	Automotive Engines	1-3-2

3. Other Major Requirements (20 SHC)

ARS 118	Wood and Metal Restoration	2-2-3
AUB 111	Painting and Refinishing I	2-6-4
AUB 112	Painting and Refinishing II	2-6-4
AUB 131	Structural Damage I	2-4-4
TRN 120	Basic Transp Electricity	4-3-5

4. Other Requirements (3 SHC)

AUB 121	Non-Structural Damage I	1-4-3

Total Semester Hours Credit required for graduation: 47

Automotive Restoration Technology
Credential: Certificate in Automotive Restoration Technology
C60140

The Automotive Restoration Technology curriculum is designed to provide individuals with the competencies needed to work in the automotive restoration industry. The program prepares individuals to apply technical knowledge and skills to repair, reconstruct, finish and restore automobile bodies, fenders, and external features of a wide range of classic vehicles that typically are at least 35 years old. It includes instruction in basic electricity, rebuilding starters, generators, and painting and refinishing techniques.

Graduates of the curriculum should qualify for entry-level employment opportunities in the automotive restoration industry.

Program Length: 2 semesters
Career Pathway Options: Diploma in Automotive Restoration Technology (Higher entrance standards required).
Program Sites: Lee Main Campus - Day Program

Course Requirements for Automotive Restoration Technology Certificate

1. Major Requirements (2 SHC)   C-L-SHC

TRN 110	Intro to Transport Tech	1-2-2

2. Other Major Requirements (13 SHC)

AUB 111	Painting and Refinishing I	2-6-4
AUB 112	Painting and Refinishing II	2-6-4
TRN 120	Basic Transp Electricity	4-3-5

Total Semester Hours Credit required for graduation: 15

Automotive Systems Technology
Credential: Associate in Applied Science Degree in Automotive Systems Technology A60160

This curriculum prepares individuals for employment as automotive service technicians. The program prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Emphasis is placed on theory, servicing and operation of brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems. Classroom and lab experiences integrate technical and academic coursework.

Upon completion of this curriculum students should be prepared for ASE certification and be ready for full-time employment in dealerships and repair shops in the automotive service industry

Program Length: 5 semesters
Career Pathway Options: Associate in Applied Science Degree in Automotive Systems Technology
Program Sites: Lee Main Campus - Day Program

Course Requirements for Automotive Systems Technology Degree

1. General Education Requirements (15 SHC)   C-L-SHC

Humanities/Fine Arts Elective		3-0-3
Social/Behavioral Science Elective		3-0-3
English; Take one course:		
ENG 111	Writing and Inquiry	3-0-3
ENG 110	Freshman Composition	3-0-3
Communications; Take one Course:		
ENG 112	Writing/Research in the Disciplines	3-0-3
ENG 114	Professional Research and Reporting	3-0-3
ENG 115	Oral Communication	3-0-3
ENG 116	Technical Report Writing	3-0-3
COM 110	Introduction to Communication	3-0-3
COM 120	Intro to Interpersonal Communication	3-0-3
COM 231	Public Speaking	3-0-3
Mathematics; Take one course:		
MAT 110	Mathematical Measurement and Literacy	2-2-3
MAT 143	Quantitative Literacy	2-2-3
PHY 110	Conceptional Physics	3-0-3
PHY 121	Applied Physics I	3-2-4

2. Major Requirements (21 SHC)

AUT 141	Suspension and Steering Systems	2-3-3
AUT 151	Brake Systems	2-3-3
AUT 181	Engine Performance I	2-3-3
AUT 221	Auto Transm/Transaxles	2-3-3
TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	4-3-5
TRN 140	Transp Climate Control	1-2-2

3. Other Major Requirements (36 SHC)

AUT 114	Safety and Emissions	1-2-2
AUT 114A	Safety and Emissions Lab	0-2-1
AUT 116	Engine Repair	2-3-3
AUT 116A	Engine Repair Lab	0-3-1
AUT 141A	Suspension and Steering Lab	0-3-1
AUT 151A	Brake Systems Lab	0-3-1
AUT 163	Adv Automotive Electricity	2-3-3
AUT 163A	Adv Automotive Electricity Lab	0-3-1
AUT 181A	Engine Performance Lab	0-3-1
AUT 183	Engine Performance II	2-6-4
AUT 221A	Auto Transm/Transaxles Lab	0-3-1
AUT 231	Manual Trans/Axles/Drtrains	2-3-3
AUT 231A	Manual Trans/Axles/Drtrains Lab	0-3-1
AUT 281	Advanced Engine Performance	2-2-3
TRN 140 A	Transp Climate Control Lab	1-2-2
TRN 145	Adv Transportation Electronics	2-3-3
Take one course:		
CIS 110	Introduction to Computers	2-2-3
CIS 111	Basic PC Literacy	1-2-2
TRN 170	Pc Skills for Transportation	1-2-2
Elective-take one course:		
TRN 111	Chassis Maint/Light Repair	2-6-4
TRN 112	Powertrain Maint/Light Repair	2-6-4
TRN 130	Intro to Sustainable Transp	2-2-3

4. Other Requirements (1 SHC)

ACA 122	College Transfer Success	1-0-1

Total Semester Hours Credit required for graduation: 73 SHC

Automotive Systems Technology
Credential: Diploma in Automotive Systems Technology
D60160

This curriculum prepares individuals for employment as automotive service technicians. The program prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Emphasis is placed on theory, servicing and operation of brake systems, electrical systems, engine performance, suspension and steering, and heating and air condition systems. Classroom and lab experiences integrate technical and academic coursework.

Upon completion of this curriculum students should be ready for full-time employment in dealerships and repair shops in the automotive service industry

Program Length: 3 semesters
Career Pathway Options: Associate in Applied Science Degree in Automotive Systems Technology (Higher entrance standards required), Diploma in Automotive Systems Technology.
Program Sites: Lee Main Campus - Day Program

Course Requirements for Automotive Systems Technology Diploma

1. General Education Academic Core (6 SHC)   C-L-SHC
Mathematics/Sci – Take one course:
MAT 110	Mathematical Measurement and Literacy	2-2-3
PHY 121	Applied Physics I	3-2-4

English; Take one course:
ENG 102	Applied Communications II	3-0-3
ENG 110	Freshman Composition	3-0-3

2. Major Requirements (18 SHC)
AUT 141	Suspension and Steering Systems	2-3-3
AUT 151	Brake Systems	2-3-3
AUT 181	Engine Performance I	2-3-3
TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	4-3-5
TRN 140	Transp Climate Control	1-2-2

3. Other Major Requirements (18 SHC)
AUT 114	Safety and Emissions	1-2-2
AUT 114A	Safety and Emissions Lab	0-2-1
AUT 141A	Suspension and Steering Lab	0-3-1
AUT 151A	Brake Systems Lab	0-3-1
AUT 163	Adv Automotive Electricity	2-3-3
AUT 163A	Adv Automotive Electricity Lab	0-3-1
AUT 181A	Engine Performance Lab	0-3-1
AUT 183	Engine Performance II	2-6-4
TRN 140 A	Transp Climate Control Lab	1-2-2

Take one:
CIS 111	Basic PC Literacy	1-2-2
CIS 110	Introduction to Computers	2-2-3
TRN 170	Pc Skills for Transportation	1-2-2

Total Semester Hours Credit required for graduation: 42

Automotive Systems Technology
Credential: Certificate in Automotive Systems Technology
C60160

This curriculum prepares individuals for employment as automotive service technicians. The program prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Emphasis is placed on theory, servicing and operation of brake systems, electrical systems, and engine performance, Classroom and lab experiences integrate technical and academic coursework.

Upon completion of this curriculum students should be ready for full-time employment in dealerships and repair shops in the automotive service industry

Program Length: 2 semesters
Career Pathway Options: Associate in Applied Science Degree in Automotive Systems Technology (Higher entrance standards required), Diploma in Automotive Systems Technology (Higher entrance standards required), Certificate in Automotive Systems Technology.
Program Sites: Lee Main Campus - Day Program

Course Requirements for Automotive Systems Technology Certificate

1. Major Requirements (11 SHC)   C-L-SHC
AUT 151	Brake Systems	2-3-3
AUT 181	Engine Performance I	2-3-3
TRN 120	Basic Transp Electricity	4-3-5

2. Other Major Requirements (6 SHC)
AUT 151A	Brake Systems Lab	0-3-1
AUT 163	Adv Automotive Electricity	2-3-3
AUT 163A	Adv Automotive Electricity Lab	0-3-1
AUT 181A	Engine Performance Lab	0-3-1

Total Semester Hours Credit required for graduation: 17

Motorcycle Mechanics
Credential: Diploma in Motorcycle Mechanics
D60260

This curriculum provides a training program for developing the basic knowledge and skills needed to inspect, maintain, diagnose, repair and/or adjust motorcycles, and other similar powered vehicles. Coursework provides a thorough understanding of the operating principles involved in modern motorcycles and includes instruction in lubrication and cooling systems, electrical and ignition systems, carburetion, fuel systems and adjustments of moving parts. Graduates receiving a diploma may find employment with motorcycle dealers, independent repair shops or may set up their own business after they have developed skills in the trade.
Program Length: 3 semesters

Career Pathway Options: Diploma in Motorcycle Mechanics
Program Sites: Lee Main Campus - Day Program

Course Requirements for Motorcycle Mechanics Diploma

1. General Education Requirements (6 SHC)   C-L-SHC
ENG 102   Applied Communication II   3-0-3
Take one course:
MAT 110   Mathematical Measurement and Literacy   2-2-3
PHY 121   Applied Physics I   3-2-4

2. Major Requirements (22 SHC)
TRN 110   Intro to Transport Tech   1-2-2
TRN 120   Basic Transp Electricity   4-3-5
MCM 111   Motorcycle Mechanics   3-8-7
MCM 114   Motorcycle Fuel Systems   2-6-5
MCM 115   Motorcycle Chassis   1-6-3

3. Other Major Requirements (19 SHC)
CIS 111   Basic PC Literacy   1-2-2
MCM 117   Motorcycle Dyno Tuning I   1-4-3
MCM 122   Motorcycle Engines   2-9-5
MCM 217   Motorcycle DynoTuning II   1-4-3
MEC 111   Machine Processes I   1-4-3
TRN 180   Basic Welding for Transp   1-4-3

Total Semester Hours Credit required for graduation: 47

**Motorcycle Mechanics
Credential: Certificate in Motorcycle
Mechanics
C60260**

This curriculum provides a training program for developing the basic knowledge and skills needed to inspect, maintain, diagnose, repair and/or adjust motorcycles, and other similar powered vehicles. Coursework provides a thorough understanding of the operating principles involved in modern motorcycles and includes instruction in lubrication and cooling systems, electrical and ignition systems, carburetion, fuel systems and adjustments of moving parts. Graduates receiving a certificate may find employment with motorcycle dealers, independent repair shops or may set up their own business after they have developed skills in the trade.

Program Length: 2 semesters
Career Pathway Options: Diploma in Motorcycle Mechanics (Higher entrance standards required), Certificate in Motorcycle Mechanics
Program Sites: Lee Main Campus - Day and Evening Program

Course Requirements for Motorcycle Mechanics Certificate

1. Major Requirements (7 SHC)   C-L-SHC
TRN 110   Intro to Transport Tech   1-2-2
TRN 120   Basic Transp Electricity   4-3-5

2. Other Major Requirements (8 SHC)
MCM 122   Motorcycle Engines   2-9-5
MCM 115   Motorcycle Chassis   1-6-3

Total Semester Hours Credit required for graduation: 15