

<i>2013-2015 College Catalog – Central Carolina Community College</i>		
EDU 285	Internship Experience	School Age 1-9-4
EDU 289	Adv. Issues/School-Age	2-0-2
School-Age Elective		3-0-3
		11-11-15

\* Students may substitute MAT 115 or PHY 121 (nontransferable).

Total Semester Hours Credit: 65

## ***Transport Systems Technologies***

\*Effective 2014 Spring

### **Automotive Restoration Technology Credential: Diploma in Automotive Restoration Technology D6014000**

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 typically from year models 1900 - 1970. 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 Campus - Day Program

#### Course Requirements for Automotive Restoration Technology Diploma

<b>A. General Education Courses (6 SHC)</b>		<b>C-L-SHC</b>
ENG 102	Applied Communication II	3-0-3
MAT 101	Applied Mathematics I	2-2-3
<b>B. Technical Core Courses (5 SHC)</b>		
TRN 110	Intro to Transport Tech	1-2-2
TRN 180	Basic Welding for Transp	1-4-3
<b>C. Program Major Courses (13 SHC)</b>		
ARS 112	Auto Restoration Research	3-0-3
ARS 113	Automotive Upholstery	2-2-4
ARS 114	Restoration Skills I	2-2-4
ARS 117	Automotive Engines	1-3-2
<b>D. Other Major Hours (19 SHC)</b>		
ARS 118	Wood and Metal Restoration	2-2-3
ARS 131	Chassis and Drive Trains	2-3-3
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
<b>Other Required Hours (3)</b>		
AUB 121	Non-Structural Damage I	1-4-3

Total Semester Hours Credit required for graduation: 46

Semester Curriculum for Automotive Restoration  
Technology Diploma

1st Semester (Fall)		C-L-SHC
ARS 112	Auto Restoration Research	3-0-3
ARS 117	Automotive Engines	1-3-2
AUB 111	Painting and Refinishing I	2-6-4
AUB 121	Non-Structural Damage I	1-4-3
TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	<u>4-3-5</u>
		12-18-19
2nd Semester (Spring)		
ARS 113	Automotive Upholstery	2-4-4
ARS 114	Restoration Skills I	2-2-4
ARS 118	Wood and Metal Restoration	2-2-3
ARS 131	Chassis and Drive Trains	2-3-3
AUB 112	Painting and Refinishing II	2-6-4
ENG 102	Applied Communication II	<u>3-0-3</u>
		13-17-21
3rd Semester (Summer)		
MAT 101	Applied Mathematics I	2-2-3
TRN 180	Basic Welding for Transp	<u>1-4-3</u>
		3-6-6
Total Semester Hours Credit (SHC): 46		

\*Effective 2014 Spring

**Automotive Restoration Technology  
Credential: Certificate in Automotive  
Restoration Technology  
C6014000**

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 typically from year models 1900 - 1970. 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: 2 semesters  
Career Pathway Options: Diploma in Automotive Restoration Technology (Higher entrance standards required).  
Program Sites: Lee Campus - Day Program

Course Requirements for Automotive Restoration  
Technology Certificate

A. Technical Core Courses (2 SHC)		
TRN 110	Intro to Transport Tech	1-2-2
B Program Major Courses (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

Semester Curriculum for Automotive Restoration  
Technology Certificate

1 <sup>st</sup> Semester		
AUB 111	Painting and Refinishing I	2-6-4
TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	<u>4-3-5</u>
		7-11-11
2 <sup>nd</sup> Semester		
AUB 112	Painting and Refinishing II	<u>2-6-4</u>
		2-6-4

Total Semester Hours Credit required for graduation: 15

\*Effective 2014 Spring

**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 Campus - Day Program

**Course Requirements for Automotive Systems Technology Degree**

**A. General Education Courses (15/16 SHC) C-L-SHC**

ENG 110	Freshman Composition	3-0-3
	OR	
ENG 111	Expository Writing	3-0-3
ENG 114	Professional Research and Reporting	3-0-3
	OR	
ENG 116	Technical Report Writing	3-0-3
	Humanities/Fine Arts Elective	3-0-3
MAT 115	Mathematical Models	2-2-3
	Or	
PHY 121	Applied Physics I	3-2-4
	Social/Behavioral Science Elective	3-0-3

**B. Technical Core Courses (9 SHC)**

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

**C. Program Major Courses (12 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

**D. Other Major Hours Required for Graduation (37 SHC)**

CIS 111	Basic PC Literacy	1-2-2
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 130	Intro to Sustainable Transp	2-2-3
TRN 140 A	Transp Climate Control Lab	1-2-2
TRN 145	Adv Automotive Electronics	2-3-3

Student Success—Select one:

ACA 111	College Student Success	1-0-1
ACA 115	Success and Study Skills	0-2-1
ACA 122	College Transfer Success	1-0-1

Total Semester Hours Credit required for graduation: 73/74 SHC

**Semester Curriculum for Automotive Systems Technology Degree**

**1st Semester (Fall) C-L-SHC**

ACA 111	College Student Success	1-0-1
AUT 181	Engine Performance I	2-3-3
AUT 181A	Engine Performance Lab	0-3-1
CIS 111	Basic PC Literacy	1-2-2
PHY 121	Applied Physics I	3-2-4
TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	4-3-5
		12-15-18

**2nd Semester (Spring)**

AUT 141	Suspension and Steering Systems	2-3-3
AUT 141A	Suspension and Steering Lab	0-3-1
AUT 151	Brake Systems	2-3-3
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
ENG 110	Freshman Composition	3-0-3
		9-18-15

**3rd Semester (Summer)**

AUT 114	Safety and Emissions	1-2-2
AUT 114A	Safety and Emissions Lab	0-2-1
AUT 183	Engine Performance II	2-6-4
TRN 140	Transp Climate Control	1-2-2
TRN 140 A	Transp Climate Control Lab	1-2-2
		5-14-11

**4th Semester (Fall)**

AUT 116	Engine Repair	2-3-3
AUT 116A	Engine Repair Lab	0-3-1
AUT 231	Manual Trans/Axles/Drtrains	2-3-3
AUT 231A	Manual Trans/Axles/Drtrains Lab	0-3-1
ENG 116	Technical Report Writing	3-0-3
TRN 130	Intro to Sustainable Transp	2-2-3

		9-14-14
5th Semester (Spring)		
AUT 221	Auto Transm/Transaxles	2-3-3
AUT 221A	Auto Transm/Transaxles Lab	0-3-1
	Social/Behavioral Science Elective	3-0-3
	Humanities/Fine Arts Elective	3-0-3
AUT 281	Advanced Engine Performance	2-2-3
TRN 145	Adv Automotive Electronics	2-3-3
		12-11-16

Total Semester Hours Credit: 74

\*Effective 2014 Spring  
**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, 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 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 Campus - Day Program

Course Requirements for Automotive Systems Technology Diploma

A. General Education Courses (6 SHC)		C-L-SHC
ENG 102	Applied Communication II	3-0-3
MAT 101	Applied Math I	2-2-3

B. Technical Core Courses (7 SHC)		
TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	4-3-5

C. Program Major Courses (12 SHC)		
AUT 141	Suspension and Steering Systems	2-3-3
AUT 151	Brake Systems	2-3-3
AUT 163	Adv Automotive Electricity	2-3-3
AUT 181	Engine Performance I	2-3-3

D. Other Major Hours required for graduation (17 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 163A	Adv Automotive Electricity Lab	0-3-1
AUT 181A	Engine Performance Lab	0-3-1
AUT 183	Engine Performance II	2-6-4
CIS 111	Basic PC Literacy	1-2-2
TRN 140	Transp Climate Control	1-2-2
TRN 140 A	Transp Climate Control Lab	1-2-2

Total Semester Hours Credit required for graduation: 42

2013-2015 College Catalog – Central Carolina Community College  
Semester Curriculum for Automotive Systems Technology  
Diploma

1st Semester (Fall)		C-L-SHC
AUT 181	Engine Performance I	2-3-3
AUT 181A	Engine Performance Lab	0-3-1
CIS 111	Basic PC Literacy	1-2-2
MAT 101	Applied Math I	2-2-3
TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	<u>4-3-5</u>
		10-15-16

2nd Semester (Spring)		
AUT 141	Suspension and Steering Systems	2-3-3
AUT 141A	Suspension and Steering Lab	0-3-1
AUT 151	Brake Systems	2-3-3
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
ENG 102	Applied Communication II	<u>3-0-3</u>
		9-18-15

3rd Semester (Summer)		
AUT 114	Safety and Emissions	1-2-2
AUT 114A	Safety and Emissions Lab	0-2-1
AUT 183	Engine Performance II	2-6-4
TRN 140	Transp Climate Control	1-2-2
TRN 140 A	Transp Climate Control Lab	<u>1-2-2</u>
		5-14-11

Total Semester Hours Credit: 42

\*Effective 2014 Spring

**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, 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 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 Campus - Day Program

Course Requirements for Automotive Systems Technology Certificate

A. Technical Core Courses (5 SHC)

TRN 120	Basic Transp Electricity	4-3-5
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B Program Major Courses (12 SHC)

AUT 151	Brake Systems	2-3-3
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 181	Engine Performance I	2-3-3
AUT 181A	Engine Performance Lab	0-3-1

Total Semester Hours Credit required for graduation: 17

Semester Curriculum for Automotive Systems Technology Certificate

1st Semester (Fall)		C-L-SHC
AUT 181	Engine Performance I	2-3-3
AUT 181A	Engine Performance Lab	0-3-1
TRN 120	Basic Transp Electricity	<u>4-3-5</u>
		6-9-9

2nd Semester (Spring)		
AUT 151	Brake Systems	2-3-3
AUT 151A	Brake Systems Lab	0-3-1
AUT 163	Adv Automotive Electricity	2-3-3
AUT 163A	Adv Automotive Electricity Lab	<u>0-3-1</u>
		4-12-8

Total Semester Hours Credit required for graduation: 17

\*Effective 2014 Spring

**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 Campus - Day Program

## Course Requirements for Motorcycle Mechanics Diploma

## A. General Education Courses (6 SHC) C-L-SHC

ENG 102	Applied Communication II	3-0-3
MAT 101	Applied Math I	2-2-3

## B. Technical Core Courses (7 SHC)

TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	4-3-5

## C. Program Major Courses (15 SHC)

MCM 111	Motorcycle Mechanics	3-8-7
MCM 114	Motorcycle Fuel Systems	2-6-5
MCM 115	Motorcycle Chassis	1-6-3

## D. Other Major Hours (20 SHC)

MCM 117	Motorcycle Dyno Tuning I	1-4-3
MCM 217	Motorcycle DynoTuning II	1-4-3
TRN 120A	Basic Transp Electricity Lab	0-3-1
TRN 180	Basic Welding for Transp	1-4-3
MCM 122	Motorcycle Engines	2-9-5
MEC 111	Machine Processes I	1-4-3
CIS 111	Basic PC Literacy	1-2-2

Total Semester Hours Credit required for graduation: 48

## Semester Curriculum for Motorcycle Mechanics Diploma

## 1st Semester (Fall)

TRN 110	Intro to Transport Tech	1-2-2
CIS 111	Basic PC Literacy	1-2-2
MCM 111	Motorcycle Mechanics	3-8-7
MCM 115	Motorcycle Chassis	1-6-3
MAT 101	Applied Math I	2-2-3
		8-20-17

## 2nd Semester (Spring)

TRN 120	Basic Transp Electricity	4-3-5
TRN 120A	Basic Transp Electricity Lab	0-3-1
MCM 122	Motorcycle Engines	2-9-5
MCM 117	Motorcycle Dyno Tuning I	1-4-3
MEC 111	Machine Processes I	1-4-3
ENG 102	Applied Communication II	3-0-3
		11-23-20

## 3rd Semester (Summer)

MCM 217	Motorcycle DynoTuning II	1-4-3
MCM 114	Motorcycle Fuel Systems	2-6-5
TRN 180	Basic Welding for Transp	1-4-3
		4-14-11

Total Semester Hours Credit: 48

\*Effective 2014 Spring

## 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 Campus - Day and Evening Program

### Course Requirements for Motorcycle Mechanics Certificate

#### A. Technical Core Courses (7 SHC)

TRN 110	Intro to Transport Tech	1-2-2
TRN 120	Basic Transp Electricity	4-3-5

#### B Program Major Courses (9 SHC)

TRN 120A	Basic Transp Electricity Lab	0-3-1
MCM 122	Motorcycle Engines	2-9-5
MCM 115	Motorcycle Chassis	1-6-3

Total Semester Hours Credit required for graduation: 16

### Semester Curriculum for Motorcycle Mechanics Certificate

#### 1<sup>st</sup> Semester

TRN 110	Intro to Transport Tech	1-2-2
MCM 115	Motorcycle Chassis	<u>1-6-3</u> 2-8-5

#### 2<sup>nd</sup> Semester

TRN 120	Basic Transp Electricity	4-3-5
TRN 120A	Basic Transp Electricity Lab	0-3-1
MCM 122	Motorcycle Engines	<u>2-9-5</u> 6-15-11

Total Semester Hours Credit required for graduation: 16

## Programs at Harnett Correctional Institution (HCI)

### Public Service Technologies

#### Barbering

**Credential: Certificate in Barbering C55110P0**

The Barbering Curriculum is designed to provide competency-based knowledge, scientific/artistic principles, and hands-on fundamentals associated with the barber industry. The curriculum also provides a simulated environment that enables students to develop manipulative skills.

Coursework includes instruction in all phase of professional barbering, hair design, chemical processes, skin care, nail care, multi-cultural practices, business/computer principles, product knowledge, and other selected topics. Graduates should qualify to sit for the State Board of Examiners. Upon successfully passing the State Board exam, graduates will be issued a license. Employment is available in barbershops and related businesses.

Entrance Standards: See General Admission Standards in catalog

Academic Standards: See General Academic Standards in catalog

Program Length: 3 semesters

Career Pathway Option: Certificate in Barbering

Program Site: Harnett Correctional Institution - Day Program

### Course Requirements for Barbering Certificate

#### A. Required Major Core Courses (32 SHC)

			C-L-SHC
BAR 111	Barbering Concepts I	4-0-4	
BAR 112	Barbering Clinic I	0-24-8	
BAR 113	Barbering Concepts II	4-0-4	
BAR 114	Barbering Clinic II	0-24-8	
BAR 115	Barbering Concepts III	4-0-4	
BAR 116	Barbering Clinic III	0-12-4	

#### B. Other Major Hours Required for Graduation (9 SHC)

			C-L-SHC
BAR 117	Barbering Concepts IV	2-0-2	
BAR 118	Barbering Clinic IV	0-21-7	

Total Semester Hours Credit Required for Graduation: 41

### Semester Curriculum for Barbering Certificate

#### 1st Semester (Fall)

			C-L-SHC
BAR 111	Barbering Concepts I	4-0-4	
BAR 112	Barbering Clinic I	0-24-8	
BAR 117	Barbering Concepts IV	2-0-2	
BAR 118A	Barbering Clinic IV	0-9-3	