

**DEKALB TECHNICAL COLLEGE**  
*Clarkston Campus*

**AUTOMOTIVE TECHNOLOGY  
SIX-QUARTER DIPLOMA**

The Automotive Technology programs are sequences of courses designed to prepare students for careers in the automotive service and repair profession. Learning opportunities develop academic, technical, and professional knowledge and skills required for job acquisition, retention, and advancement. The programs emphasize a combination of automotive mechanics theory and practical application necessary for successful employment as automotive technicians, service advisors, or in management.

Course Number	Course	Class Hours	Lab Hours	Total Hours	Credit Hours	Prerequisites/Corequisites
<b>FIRST QUARTER</b>						
AUT 120	Introduction to Automotive Technology	20	30	50	3	
AUT 122	Electrical and Electronics Systems	40	60	100	6	AUT 120
AUT 124	Battery, Starting, Charging Systems	20	60	80	4	AUT 122
MAT 101	General Mathematics	<u>50</u>	<u>0</u>	<u>50</u>	<u>5</u>	*
	<b>TOTAL</b>	130	150	280	18	
<b>SECOND QUARTER</b>						
AUT 126	Engine Principles of Operation and Repair	30	90	120	6	AUT 120
AUT 128	Fuel, Ignition, and Emission Systems	50	60	110	7	AUT 122, AUT 124, Pre/Co-req AUT 126
SCT 100	Introduction to Microcomputers	<u>30</u>	<u>0</u>	<u>30</u>	<u>3</u>	
	<b>TOTAL</b>	110	150	260	16	
<b>THIRD QUARTER</b>						
AUT 130	Automobile Brake Systems	30	30	60	4	AUT 122
AUT 142	Climate Control Systems	50	30	80	6	AUT 122
AUT 214	Adv. Elec Controlled Brake Sys Diagnosis	30	30	60	4	AUT 130
AUT 220A	Automotive Technology Internship	<u>0</u>	<u>90</u>	<u>90</u>	<u>3</u>	AUT 128
	<b>TOTAL</b>	110	180	290	17	
<b>FOURTH QUARTER</b>						
AUT 132	Suspension and Steering Systems	30	30	60	4	AUT 122
AUT 134	Drivelines	20	60	80	4	AUT 122
AUT 216	Adv. Elec Controlled Suspension/Steering	30	30	60	4	AUT 132
EMP 100	Interpersonal Relations and Professional Development	<u>30</u>	<u>0</u>	<u>30</u>	<u>3</u>	*
	<b>TOTAL</b>	110	120	230	15	
<b>FIFTH QUARTER</b>						
AUT 138	Manual Transmissions/Transaxles	30	30	60	4	AUT 122
AUT 144	Introduction to Automatic Transmissions	30	30	60	4	AUT 122
AUT 210	Automatic Transmission Repair	50	60	110	7	AUT 122, Pre/Co-req AUT 144
ENG 101	English	<u>50</u>	<u>0</u>	<u>50</u>	<u>5</u>	* , See catalog for pre-reqs
	<b>TOTAL</b>	160	120	280	20	
<b>SIXTH QUARTER</b>						
AUT 140	Electronic Engine Control Systems	60	30	90	7	AUT 128
AUT 212	Adv. Electronic Transmission Diagnosis	20	30	50	3	AUT 210
AUT 218	Adv. Electronic Engine Control Systems	30	30	60	4	AUT 140
AUT 220B	Automotive Technology Internship	<u>0</u>	<u>90</u>	<u>90</u>	<u>3</u>	AUT 128
	<b>TOTAL</b>	110	180	290	17	

\* Approved admission level English, Reading and/or Mathematics competency required.

CIP CODE: 47.0604A4

MAJOR CODE: UTA4

REQUIRED CREDIT HOURS: 103

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The curriculum is subject to change to meet changing conditions. As set forth in its catalog, DeKalb Technical College does not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, veteran status, or citizenship status (except in those special circumstances permitted or mandated by law).

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**AUTOMOTIVE TECHNOLOGY COURSE DESCRIPTIONS**

**AUT 120 - INTRO TO AUTOMOTIVE TECHNOLOGY (3)**

Introduces basic concepts and practices necessary for safe and effective automotive shop operation. Topics include: safety procedures; legal/ethical responsibilities; shop organization, management, and work flow systems; measurement techniques; and hand tools.

**AUT 122 - ELECTRICAL & ELECTRONIC SYSTEMS (6)**

Prerequisite/Corequisite: AUT 120

Introduces automotive electricity. Topics include: general electrical system diagnosis; lighting system diagnosis and repair; gauges, warning devices, and driver information system diagnosis and repair; horn and wiper/washer diagnosis and repair; accessories diagnosis and repair.

**AUT 124 - BATTERY, STARTING & CHARGING SYSTEMS (4)**

Prerequisite/Corequisite: AUT 122

Emphasizes the basic principles, diagnosis, and service/repair of batteries, starting systems, starting systems components, alternators, and regulators. Topics include: battery diagnosis and service; starting system diagnosis and repair; charging system diagnosis and repair.

**AUT 126 - ENGINE PRINCIPLES OF OPERATION & REPAIR (6)**

Prerequisite: AUT 120

Introduces automotive engine theory and repair, placing emphasis on inspection, testing, and diagnostic techniques. Topics include: general diagnosis; removal and reinstallation; cylinder heads and valve trains diagnosis and repair; engine blocks assembly diagnosis and repair; lubrication and cooling systems diagnosis and repair.

**AUT 128 - FUEL, IGNITION, & EMISSION SYSTEMS (7)**

Prerequisites: AUT 122, AUT 124

Prerequisite/Corequisite: AUT 126

Introduces fuel, ignition, and exhaust systems theory, diagnosis, repair, and service for vehicles with carburetion and fuel injection systems. Topics include: general engine diagnosis; ignition system diagnosis and repair; fuel, air induction, and exhaust systems diagnosis and repair; positive crankcase ventilation; exhaust gas re-circulation; engine related service.

**AUT 130 - AUTOMOTIVE BRAKE SYSTEMS (4)**

Prerequisites: AUT 122

Introduces Brake systems theory and its application to automotive systems. Topics include: hydraulic system diagnosis and repair; drum brake diagnosis and repair; disc brake diagnosis and repair; power assist units diagnosis and repair; miscellaneous (wheel bearings, parking brakes, electrical, etc.) diagnosis and repair.

**AUT 132 - SUSPENSION AND STEERING SYSTEMS (4)**

Prerequisite/Corequisite: AUT 122

Introduces students to principles of steering, suspension, wheel alignment, electronic steering, and electronic active suspension. Topics include: steering systems diagnosis and repair; wheel alignment diagnosis, adjustment and repair; wheel/tire diagnosis and repair; suspension systems diagnosis and repair.

**AUT 134 – DRIVELINES (4)**

Prerequisite: AUT 122

Introduces basics of rear-wheel drive, front-wheel drive, and four-wheel drive driveline related operation, diagnosis, service and related electronic controls. Topics include: drive shaft and half shaft, universal and constant-velocity (cv) joint diagnosis and repair; ring and pinion gears and differential case assembly; limited slip differential; drive axle shaft; four-wheel drive/all-wheel drive component diagnosis and repair.

**AUT 138 - MANUAL TRANSMISSION/TRANSAXLE (4)**

Prerequisite: AUT 122

Introduces basics of front and rear-wheel drive. Clutch operation, diagnosis and service are included. Electronic controls related to transmission/transaxle operation are discussed. Topics include: clutch diagnosis and repair; transmission/transaxle diagnosis and repair

**AUT 140 - ELECTRONIC ENGINE CONTROL SYS (7)**

Prerequisite: AUT 128

Introduces concept of electronic engine control. Topics include: computerized engine controls diagnosis and repair; intake air temperature controls; early fuel evaporation (intake manifold temperature) controls; evaporative emissions controls.

**AUT 142 - CLIMATE CONTROL SYSTEMS (6)**

Prerequisite: AUT 122

Introduces the theory and operation of automotive heating and air conditioning systems. Students attain proficiency in inspection, testing, service, and repair of heating and air conditioning systems and related components. Topics include: a/c system diagnosis and repair; refrigeration system component diagnosis and repair; heating, ventilation, and engine cooling systems diagnosis and repair; operating systems and related controls diagnosis and repair; refrigerant recovery, recycling, and handling

**AUT 144 - INTRO TO AUTOMATIC TRANSMISSIONS(4)**

Prerequisite: AUT 122

Introduces students to basic transmission/transaxle theory, inspection, and service procedures. Focuses on minor in-car adjustments, replacements, and repair. Topics include: general transmission and transaxle diagnosis; transmission and transaxle maintenance and adjustment; in-vehicle transmission and transaxle repair.

**AUT 210 - AUTOMATIC TRANSMISSION REPAIR (7)**

Prerequisite: AUT 122

Prerequisite/Corequisite: AUT 144

Introduces automatic transmission hydraulic/mechanical operations, transmission repair, and automatic transmission hydraulic/mechanical diagnosis. Topics include: removal, disassembly, and reinstallation; oil pump and converter; gear train, shafts, bushings and case; friction and reaction units.

**AUT 212 - ADVANCED ELECTRONIC TRANSMISSION DIAGNOSIS (3)**

Prerequisite/Corequisite: AUT 210

Introduces automatic transmission hydraulic/mechanical, and electronic diagnosis and repair. Topics include: electronically controlled automatic transmission, automatic transmission electrical, electronic problem diagnosis/ repair.

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**AUTOMOTIVE TECHNOLOGY COURSE DESCRIPTIONS**

**AUT 214 - ADVANCED ELECTRONIC CONTROLLED BRAKE SYSTEM DIAGNOSIS (4)**

Prerequisite/Corequisite: AUT 130  
Introduces anti-lock brake system (ABS) to include ABS components and ABS operation, testing, and diagnosis. Topics include: general brake and anti-lock brake systems diagnosis and testing, light truck rear anti-lock brake system, four-wheel anti-lock brake systems locations, components, and operation.

**AUT 216 - ADVANCED ELECTRONIC CONTROLLED SUSPENSION/ STEERING (4)**

Prerequisite/Corequisite: AUT 132  
Introduces principles of electronic suspension, electronic steering, and electronic active suspension. Topics include: electronic steering systems diagnosis and adjustment/repair, and diagnosis of electrical and electronic controlled steering and suspension systems.

**AUT 218 - ADV ELECTRONIC ENGINE CONTROL SYS(4)**

Prerequisite: AUT 140  
Introduces On-Board Diagnostics II (OBD II), California Air Research Board (CARB) requirements and monitoring technology, diagnostic trouble code definitions, and essentials of advanced driveability diagnosis and data interpretation using a scanner. Topics include: OBD II standards; monitoring capabilities; OBD II diagnostics; OBD II terms.

**AUT 220A - AUTOMOTIVE TECH INTERNSHIP (3)**

Prerequisite/Corequisite: AUT 128  
Provides student work experience in the occupational environment. Topics include: application of automotive technology knowledge and skills, appropriate employability skills, problem solving, adaptability to job setting, progressive productivity, and acceptable job performance.

**AUT 220B - AUTOMOTIVE TECH INTERNSHIP (3)**

Prerequisite/Corequisite: AUT 128  
Provides student work experience in the occupational environment. Topics include: application of automotive technology knowledge and skills, appropriate employability skills, problem solving, adaptability to job setting, progressive productivity, and acceptable job performance.

**ESTIMATED PROGRAM COSTS**

**AUTOMOTIVE TECHNOLOGY SIX-QUARTER DIPLOMA**

**First Quarter**

Tuition/Fees.....	\$544.00
Books.....	190.00
Supplies (Meter).....	100.00
<b>Total.....</b>	<b>\$834.00</b>

**Second Quarter**

Tuition/Fees.....	\$544.00
Books.....	55.00
<b>Total.....</b>	<b>\$599.00</b>

**Third Quarter**

Tuition/Fees.....	\$544.00
Books.....	160.00
Supplies.....	25.00
<b>Total.....</b>	<b>\$729.00</b>

**Fourth Quarter**

Tuition/Fees.....	\$544.00
Books.....	160.00
Supplies.....	43.00
<b>Total.....</b>	<b>\$747.00</b>

**Fifth Quarter**

Tuition/Fees.....	\$544.00
Books.....	73.00
<b>Total.....</b>	<b>\$617.00</b>

**Sixth Quarter**

Tuition/Fees.....	\$544.00
Books.....	179.00
<b>Total.....</b>	<b>\$723.00</b>
<b>Total Cost.....</b>	<b>\$4,249.00</b>

Tuition/fees and cost of books/supplies are estimates only and are subject to change without notice. Tuition is based on Georgia residency.

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