

AUTOMOTIVE TECHNOLOGY (AUTO)

AUTO 80 5.0 UNITS

Bureau of Automotive Repair (BAR) ASE Alternative Courses for Advanced Emissions Special

Class Hours: 4.0 Lecture / 4.0 Laboratory

Total Contact Hours: 72 Lecture / 72 Laboratory

Recommendation: Appropriate work experience.

This alternative course will meet and exceed the Bureau of Automotive Repair (BAR) for Automotive Service Excellence (ASE) certifications for the following areas: Electrical, Engine Performance, and Advanced Engine Performance. This course meets theory/practical requirements for obtaining the state license for Advanced Smog Technician.

AUTO 100 4.0 UNITS

Automotive Maintenance and Operation

Class Hours: 3.0 Lecture / 3.0 Laboratory

Total Contact Hours: 54 Lecture / 54 Laboratory

Basic class dealing with the selection and maintenance of the modern automobile. Emphasis is on the basic operating principles.

Transfer Credit: CSU

AUTO 101 4.0 UNITS

Automotive Service Tools and Equipment

Class Hours: 3.0 Lecture / 3.0 Laboratory

Total Contact Hours: 54 Lecture / 54 Laboratory

Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass".

This course is a study of the principles in the use of hand tools, power tools, diagnostic tools and equipment used in the automotive service industry. Safety, technique, and proper handling are the emphases of the course. This course is taught using contemporary automotive equipment along with manufacturer's proprietary diagnostic tools. Techniques covered will include the latest available for use of modern as well as traditional tool use focusing on safety and quality workmanship.

Transfer Credit: CSU

AUTO 103 3.0 UNITS

Introduction to High Voltage Vehicles

Class Hours: 2.0 Lecture / 3.0 Laboratory

Total Contact Hours: 36 Lecture / 54 Laboratory

This course is an introduction to vehicles that use high voltage. Topics will include advanced technology vehicles such as hybrid electric vehicles (HEV), and battery electric vehicles (BEV).

Transfer Credit: CSU

AUTO 105 2.0 UNITS

Hydraulics and Pneumatics

Class Hours: 1.5 Lecture / 1.5 Laboratory

Total Contact Hours: 27 Lecture / 27 Laboratory

This course will introduce the student to the fundamentals and principles of hydraulics and pneumatics as they relate to automotive, transportation, heavy duty equipment, and system modification. Applications of each will be explored, as well as the design and operation of simple circuits and systems in the laboratory.

Transfer Credit: CSU

AUTO 107 3.0 UNITS

Diesel Exhaust Emission Control and Servicing

Class Hours: 3.0 Lecture

Total Contact Hours: 54 Lecture

Recommendation: AUTO 109 or equivalent with a grade of "C" or higher or "Pass".

This course will provide instruction on the background, principles, theory, operation, diagnosis, servicing and repair of diesel engine exhaust emissions control and after treatment systems. This course is intended for students entering the field of on-highway and heavy equipment vehicles, and alternative fuel vehicle service and maintenance, or students currently in the industry looking to advance their knowledge of on-highway and heavy equipment vehicles, and alternative fuel vehicle service, maintenance, and repair. Instruction on technical reference materials, parts and service books, diagnostic systems and programs used by the service technicians will be covered.

Transfer Credit: CSU

AUTO 108 4.0 UNITS

Energy and Transportation Systems

Class Hours: 3.0 Lecture / 3.0 Laboratory

Total Contact Hours: 54 Lecture / 54 Laboratory

This introductory class to energy systems provides the connection between energy development and transportation. The course involves all aspects of current and future energy development systems. Energy procurement, transmission, distribution, storage, and usage are introduced. An emphasis is placed on the interrelationships among components of systems.

Transfer Credit: CSU

AUTO 109 5.0 UNITS

Automotive Diesel Systems

Class Hours: 4.0 Lecture / 4.0 Laboratory

Total Contact Hours: 72 Lecture / 72 Laboratory

Recommendation: Current automotive student or employed as an automotive service professional.

This is a theory/practical course in automotive diesel engine repair that includes operating principles and descriptions of all components. The major emphasis will be on systems operation and diagnosis.

Transfer Credit: CSU

AUTO 110 5.0 UNITS

Automotive Engines

Class Hours: 4.0 Lecture / 4.0 Laboratory

Total Contact Hours: 72 Lecture / 72 Laboratory

Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass".

This is a theory/practical course in Automotive Engine Repair to include operating principles and descriptions of all components. The emphasis is on diagnosis and measurement of internal engine components. Complete disassembly and reassembly of engines will be accomplished using special service tools. Overhead camshaft engines will be the primary focus.

Transfer Credit: CSU

<p>AUTO 111 4.0 UNITS Automotive Engines Class Hours: 3.3 Lecture / 3.3 Laboratory Total Contact Hours: 59.94 Lecture / 60 Laboratory</p> <p>Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass".</p> <p>This is a theory/practical course in Automotive Engine Repair that includes operating principles and descriptions of all components. The emphasis is on diagnosis and measurement. Complete disassembly and reassembly of engines will be accomplished with the emphasis on manufacturer's specialty tools and techniques of overhead cam engines. Course content will be presented on a single manufacturer's engine. Transfer Credit: CSU</p>	<p>AUTO 140 5.0 UNITS Automotive Steering and Suspension Class Hours: 4.0 Lecture / 4.0 Laboratory Total Contact Hours: 72 Lecture / 72 Laboratory</p> <p>Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience.</p> <p>This is a course in the theory and practice of steering, suspension, and wheel alignment. It includes operating principles, component description, diagnosis, and service. Alignment instruction includes electronic four-wheel alignment. Transfer Credit: CSU</p>
<p>AUTO 120 5.0 UNITS Automatic Transmissions and Transaxles Class Hours: 4.0 Lecture / 4.0 Laboratory Total Contact Hours: 72 Lecture / 72 Laboratory</p> <p>Recommendation: AUTO 100 or equivalent with a grade of Pass or "C" or higher, or appropriate work experience.</p> <p>This course is focused on the principles of automatic transmissions and transaxles. Procedures for diagnosing troubles, adjusting, and overhauling the automatic transmission and transaxle are studied and applied in the shop. Transfer Credit: CSU</p>	<p>AUTO 150 5.0 UNITS Automotive Brakes Class Hours: 4.0 Lecture / 4.0 Laboratory Total Contact Hours: 72 Lecture / 72 Laboratory</p> <p>Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience.</p> <p>This is a theoretical and practical course in braking systems. It includes operating principles, component description, diagnosis, and service. Brake service includes antilock braking systems. Transfer Credit: CSU</p>
<p>AUTO 121 6.5 UNITS Drivetrain Transmissions and Axles Class Hours: 5.0 Lecture / 5.0 Laboratory Total Contact Hours: 90 Lecture / 90 Laboratory</p> <p>Recommendation: AUTO 100 equivalent with grades of "C" or higher or "Pass".</p> <p>This course is a study of the principles of the automotive power systems-clutch, manual and automatic transmission, transaxle, transfer case, driveline, drive-axle, differential, including diagnosis and service. This course is taught using specified manufacturer's components and materials. Transfer Credit: CSU</p>	<p>AUTO 151 6.5 UNITS Automotive Alignment Brake and Suspension Class Hours: 5.0 Lecture / 5.0 Laboratory Total Contact Hours: 90 Lecture / 90 Laboratory</p> <p>Recommendation: AUTO 100 equivalent with grades of "C" or higher or "Pass".</p> <p>This is a theoretical and practical course in basic alignment, brakes, steering, and suspension on a single manufacturer's car line. Included are operating principles, component description, diagnosis, repair, and service adjustments. This course is designed to accompany work experience in this trade. Transfer Credit: CSU</p>
<p>AUTO 130 5.0 UNITS Manual Drivetrain and Axles Class Hours: 4.0 Lecture / 4.0 Laboratory Total Contact Hours: 72 Lecture / 72 Laboratory</p> <p>Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass".</p> <p>This is a study of the principles of the automotive power systems-clutch, manual and automatic transmission, transaxles, transfer cases, drive line, drive-axle, differential, and all-wheel drive systems and service, including diagnosis and service. Transfer Credit: CSU</p>	<p>AUTO 155 2.0 UNITS Medium/Heavy Duty Brake Systems Class Hours: 0.1 Lecture / 0.1 Laboratory Total Contact Hours: 1.5 Lecture / 1.5 Laboratory</p> <p>Recommendation: AUTO 105, Hydraulics and Pneumatics.</p> <p>This course will introduce the student to the fundamentals and principles of pneumatic braking systems as they relate to transportation and medium/heavy duty trucks. Applications of air-powered brakes will be explored, as well as the design and operation of pneumatic circuits and systems in the laboratory. Transfer Credit: CSU</p>
	<p>AUTO 160 5.0 UNITS Introduction to Automotive Electrical Class Hours: 4.0 Lecture / 4.0 Laboratory Total Contact Hours: 72 Lecture / 72 Laboratory</p> <p>Recommendation: AUTO 100 or appropriate work experience or equivalent with a grade of "C" or higher or "Pass".</p> <p>This course is the first part of a three-part series (AUTO 160, 260, and 265). This is a theory and practical course in basic electricity and automotive electrical systems such as Ohm's law, electrical circuits, electromagnetism, and battery starting and charging systems. Test equipment and computer systems will also be covered. Transfer Credit: CSU</p>

<p>AUTO 161 Automotive Electricity Class Hours: 6.0 Lecture / 4.0 Laboratory Total Contact Hours: 108 Lecture / 72 Laboratory</p> <p>Recommendation: AUTO 100 or AUTO 151 and AUTO 73/74 or equivalent with grades of Pass or "C" or higher.</p> <p>This is a theory/practical course in basic electricity and automotive electrical systems, such as battery, starting, charging, and electronic ignition systems. The content will be presented on a single manufacturer's product line.</p> <p>Transfer Credit: CSU</p>	<p>7.0 UNITS</p>	<p>AUTO 180 Electronic Engine Management Systems Class Hours: 4.0 Lecture / 4.0 Laboratory Total Contact Hours: 72 Lecture / 72 Laboratory</p> <p>Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience.</p> <p>This is a theoretical/practical course pertaining to the operation, individual components, and the overall logic by which fuel systems components work together. Feedback carburetion, fuel injection and electronic controls will be included along with OBD-I and OBD-II systems operation and comparisons.</p> <p>Transfer Credit: CSU</p>	<p>5.0 UNITS</p>
<p>AUTO 170 Automotive Air Conditioning Class Hours: 3.0 Lecture / 3.0 Laboratory Total Contact Hours: 54 Lecture / 54 Laboratory</p> <p>Recommendation: AUTO 160 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience.</p> <p>This theory and shop course is designed to teach basic automotive air conditioning using tools skills and processes associated with the modern automobile. Related information for developing knowledge and skills necessary to perform the most common and essential air conditioning service procedures is addressed.</p> <p>Transfer Credit: CSU</p>	<p>4.0 UNITS</p>	<p>AUTO 181 Electronic Engine Management Systems-Corporate Class Hours: 5.0 Lecture / 5.0 Laboratory Total Contact Hours: 90 Lecture / 90 Laboratory</p> <p>Recommendation: AUTO 100 equivalent with grades of "C" or higher or "Pass".</p> <p>This is a theory/practical course in diagnosing automotive drivability problems. Areas such as ignition, carburetion, automotive computers, electronic engine controls and on-board diagnostic systems will be included. The course will be presented using a single manufacturer's product line.</p> <p>Transfer Credit: CSU</p>	<p>6.5 UNITS</p>
<p>AUTO 173 Automotive Technology Work Experience Education Automotive Technology Work Experience Education requires a minimum of 162 paid or unpaid hours of work per semester. Work Experience Education provides the opportunity for students to apply skills and knowledge learned in the classroom to related experiences on the job/training site. The aim of the course is to assist students in expanding specific job skills in automotive technology. In the process of doing so, it creates greater communication with increased understanding between the student/workers, the college, and the employer/trainers. Work experience courses may be taken for a maximum of 8 units per semester. The total work experience units taken by a student may not exceed 14 units. (Formerly AUTO 73)</p> <p>Transfer Credit: CSU</p>	<p>3.0 UNITS</p>	<p>AUTO 182 Introduction to Alternative Fuel Class Hours: 3.0 Lecture / 1.5 Laboratory Total Contact Hours: 54 Lecture / 27 Laboratory</p> <p>This course introduces students to the role, function, and practical application of alternative fuels for the internal combustion engine. Alternative fuels explored in class and lab include compressed natural gas (CNG), liquefied natural gas (LNG), propane, alcohol (ethanol and methanol), hydrogen, and biodiesel. Fuel cell, hybrid, and electric vehicles will also be explored.</p> <p>Transfer Credit: CSU</p>	<p>3.5 UNITS</p>
<p>AUTO 179 Automotive Air Conditioning Class Hours: 3.3 Lecture / 3.3 Laboratory Total Contact Hours: 59.94 Lecture / 60 Laboratory</p> <p>Recommendation: AUTO 161 or equivalent with a grade of "C" or higher or "Pass".</p> <p>This course is a study of the principles of automotive air conditioning systems. The tools, skills, and processes necessary to perform the most common and essential air conditioning service procedures are studied and demonstrated in the shop. All instruction will be done on a single manufacturer's unit.</p> <p>Transfer Credit: CSU</p>	<p>4.0 UNITS</p>	<p>AUTO 183 Compressed Natural Gas Engines Class Hours: 3.0 Lecture / 3.0 Laboratory Total Contact Hours: 54 Lecture / 54 Laboratory</p> <p>Recommendation: AUTO 182, Introduction to Alternative Fuel.</p> <p>This course covers current trends in the industry for operation, maintenance, and repair of light and heavy duty compressed natural gas (CNG) vehicles. CNG engines, design, tanks, and fuel systems will be analyzed. The course also serves as preparation for taking the fuel systems inspector exam and ASE-F1, Light Duty CNG Vehicles, and ASE-H1 Transit Bus CNG Vehicles.</p> <p>Transfer Credit: CSU</p>	<p>4.0 UNITS</p>

<p>AUTO 190 Automotive Management Class Hours: 3.0 Lecture Total Contact Hours: 54 Lecture</p> <p>Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass".</p> <p>This course is designed to furnish the student with knowledge, experience, and practice in supervision and management of an automotive repair facility. Emphasis is placed on customer relations, scheduling, cost estimation, and efficient, effective use of time and space.</p> <p>Transfer Credit: CSU</p>	<p>3.0 UNITS</p>	<p>AUTO 200 General Motors Fundamentals Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors specific technical training requirements. Topics covered will include dealership safety, service information, scan tool interface, diagnostic tools, basic electrical theory, and the three Cs (concern, cause, and correction). The course will also contain training on both hand and power tools, vehicle hoisting, and vehicle safety inspections.</p> <p>Transfer Credit: CSU</p>	<p>3.0 UNITS</p>
<p>AUTO 193 Automotive Service Information Management Class Hours: 3.0 Lecture Total Contact Hours: 54 Lecture</p> <p>Recommendation: Automotive major or employment in an automotive repair facility.</p> <p>This course will cover customer satisfaction, understanding new car warranties, service contracts and operating policies. A review of California common laws and BAR regulations will be included. Emphasis is based on computerized and electronic information systems including All Data, Mitchell on Demand, ADP Automotive Management Systems.</p> <p>Transfer Credit: CSU</p>	<p>3.0 UNITS</p>	<p>AUTO 201 General Motors Engine Repair Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors specific technical training requirements. Topics covered will include general engine diagnosis, cylinder head and valve train diagnosis and repair, engine block diagnosis and repair, lubrication and cooling systems diagnosis and repair, and also air induction and exhaust systems diagnosis and repair.</p> <p>Transfer Credit: CSU</p>	<p>3.0 UNITS</p>
<p>AUTO 194 Retailing Automotive Service Class Hours: 3.0 Lecture Total Contact Hours: 54 Lecture</p> <p>Recommendation: Current automotive student or employed as an automotive service professional.</p> <p>This course deals with issues related to the automotive repair facility's management, productivity, and operation of vehicle fleets. Taking into account the facility infrastructure, the focus will be on scheduling work to effectively utilize facilities and staff to improve production and profitability. Cost effective techniques for equipment procurement, management, and maintenance will also be covered. Shop organization and workflow will be discussed including safety and regulatory issues.</p> <p>Transfer Credit: CSU</p>	<p>3.0 UNITS</p>	<p>AUTO 202 General Motors Automatic Transaxle/Transmission Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors specific technical training requirements. Topics covered will include general automatic transmission/transaxle diagnosis, in-vehicle maintenance and repair, an off-vehicle repair. Transfer: CSU</p>	<p>3.0 UNITS</p>
<p>AUTO 195 Automotive Customer Relations Class Hours: 3.0 Lecture Total Contact Hours: 54 Lecture</p> <p>Recommendation: Employment in an automotive repair facility or full-time automotive student.</p> <p>This course deals with the selling of automotive services to the general public and automotive fleet managers. All aspects of customer relations and developing skills necessary to properly communicate with customers are covered. Special emphasis will be given to interpersonal relationship development and customer confidence building. Cultural differences will be discussed as they affect sales techniques. This course provides participants with the necessary knowledge and skills to effectively handle situations that occur when dealing with unusual, complex or ethical problems.</p> <p>Transfer Credit: CSU</p>	<p>3.0 UNITS</p>	<p>AUTO 203 General Motors Manual Drivetrain and Axle Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors specific technical training requirements. Topics covered will include clutch diagnosis and repair, manual transmission and transaxle diagnosis and repair, drive shaft/half-shaft and universal joint/constant velocity (CV) joint diagnosis and repair, drive axle diagnosis and repair, and four-wheel drive/all-wheel drive component diagnosis and repair. Transfer: CSU</p>	<p>3.0 UNITS</p>
<p>AUTO 195 Automotive Customer Relations Class Hours: 3.0 Lecture Total Contact Hours: 54 Lecture</p> <p>Recommendation: Employment in an automotive repair facility or full-time automotive student.</p> <p>This course deals with the selling of automotive services to the general public and automotive fleet managers. All aspects of customer relations and developing skills necessary to properly communicate with customers are covered. Special emphasis will be given to interpersonal relationship development and customer confidence building. Cultural differences will be discussed as they affect sales techniques. This course provides participants with the necessary knowledge and skills to effectively handle situations that occur when dealing with unusual, complex or ethical problems.</p> <p>Transfer Credit: CSU</p>	<p>3.0 UNITS</p>	<p>AUTO 204 General Motors Suspension and Steering Systems Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors specific technical training requirements. Topics covered will include diagnosis and repair of steering systems, suspension systems, wheel alignment, wheels, and tires.</p> <p>Transfer: CSU</p>	<p>3.0 UNITS</p>

<p>AUTO 205 3.0 UNITS General Motors Braking Systems Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors braking systems. It will include disc brakes, drum brakes, parking brakes, measuring both rotors and drums, brake lathe use, anti-lock braking systems (ABS), and electronic stability control (ESC). Transfer Credit: CSU</p>	<p>AUTO 210 4.0 UNITS Automotive Upper Engine Machinist Class Hours: 3.0 Lecture / 3.0 Laboratory Total Contact Hours: 54 Lecture / 54 Laboratory</p> <p>Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience. This course is designed to teach students the basic operations used in the automotive machine shop. Emphasis is placed on upper engine disassembly, inspection, and machining operations including valve guide reconditioning, valve and valve seat refacing, deck surfacing, combustion chamber volume measuring, and basic flow bench operation. The course prepares students for the AERA Engine Builders Association Cylinder Head Machinist Certification exam. Transfer Credit: CSU</p>
<p>AUTO 206 3.0 UNITS General Motors Electrical Systems 1 Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors specific technical training requirements. Topics covered will include batteries, starting, and charging systems and their related circuits. Transfer Credit: CSU</p>	<p>AUTO 211 4.0 UNITS Automotive Lower Engine Machinist Class Hours: 3.0 Lecture / 3.0 Laboratory Total Contact Hours: 54 Lecture / 54 Laboratory</p> <p>Recommendation: Appropriate work experience. This course is designed to teach students the basic operations used in the automotive machine shop. Emphasis is placed on lower engine disassembly, inspection, and machining operations including cylinder boring and honing, deck surfacing, align honing, connecting rod reconditioning, and crankshaft inspection. The course prepares students for the AERA Engine Builders Association Engine Machinist Certification exam. Transfer Credit: CSU</p>
<p>AUTO 207 3.0 UNITS General Motors HVAC Systems Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors specific technical training requirements. Topics included are HVAC diagnosis and repair, engine cooling systems, refrigeration system components, operating systems and related controls. Transfer Credit: CSU</p>	<p>AUTO 212 1.0 UNITS Advanced High Performance Engines Class Hours: 4.0 Laboratory Total Contact Hours: 72 Laboratory</p> <p>Prerequisite: AUTO 210 or AUTO 211 or equivalent with a grade of "C" or higher or "Pass". This course is designed to further increase the skill and knowledge of the student in areas of Automotive Machine Shop and High Performance Engines, working to trade standards. Transfer Credit: CSU</p>
<p>AUTO 208 3.0 UNITS General Motors Engine Performance 1 Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors specific technical training requirements. Topics included are general engine condition diagnosis, ignition system diagnosis and repair, fuel delivery systems, air induction, and exhaust systems diagnosis and repair. Transfer Credit: CSU</p>	<p>AUTO 216 3.0 UNITS General Motors Electrical Systems 2 Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>Prerequisite: AUTO 206 with a grade of "C" or higher or "Pass" This course will cover General Motors specific technical training requirements. Topics covered will include lighting systems, instrument cluster, driver information systems, and body electrical systems. Transfer Credit: CSU</p>
<p>AUTO 209 3.0 UNITS General Motors Diesel Technology Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>This course will cover General Motors specific technical training requirements. Topics covered will include general diesel diagnosis, cylinder head and valve train diagnosis and repair, engine block diagnosis and repair, lubrication and cooling systems diagnosis and repair, air induction and exhaust systems diagnosis and repair, fuel system diagnosis and repair, and diesel emissions systems. Transfer Credit: CSU</p>	<p>AUTO 218 3.0 UNITS General Motors Engine Performance 2 Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory</p> <p>Prerequisite: AUTO 208 with a grade of "C" or higher or "Pass" This course will cover General Motors specific technical training requirements. Topics included are emission controls systems diagnosis and repair, and computerized engine controls diagnosis and repair. Transfer Credit: CSU</p>

AUTO 226 General Motors Electrical Systems 3 Class Hours: 2.0 Lecture / 3.0 Laboratory Total Contact Hours: 36 Lecture / 54 Laboratory Prerequisite: AUTO 216 with a grade of "C" or higher or "Pass" This course will cover General Motors specific technical training requirements. Topics covered will include advanced technology vehicles such as Compressed Natural Gas (CNG), bi-fuel systems, hybrid electric vehicles (HEV), and battery electric vehicles (BEV). Transfer Credit: CSU	3.0 UNITS	AUTO 281 Emission Control Systems -1997 Standards Class Hours: 4.0 Lecture / 4.0 Laboratory Total Contact Hours: 72 Lecture / 72 Laboratory Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass". This course gives the advanced automotive student exposure to the current methods, devices, and manufacturers of automotive emission control systems. It provides the student with an opportunity to obtain an advanced emission specialist technician license. Transfer Credit: CSU	5.0 UNITS
AUTO 260 Intermediate Automotive Electrical Class Hours: 3.0 Lecture / 3.0 Laboratory Total Contact Hours: 54 Lecture / 54 Laboratory Prerequisite: AUTO 160 or equivalent with a grade of "C" or higher, or "Pass," or appropriate work experience. This course is part two of a three-part series (AUTO 160, 260, and 265). This is a theory/practical course in the automotive body electrical system, covering all classes of electrical components and power accessories in the area of diagnosing and component repairs. Controller Area Networking (CAN) and electronic suspension/steering systems will be introduced. Also covered will be driver information and navigation systems, supplemental restraint systems (SRS), and introduction to hybrid/electric vehicles. Transfer Credit: CSU	4.0 UNITS		
AUTO 265 Advanced Automotive Electrical Class Hours: 4.0 Laboratory Total Contact Hours: 72 Laboratory Prerequisite: AUTO 260 or equivalent with a grade of "C" or higher or "Pass". This course is part three of a three-part series (AUTO 160, 260, and 265). This is an advanced course in automotive electrical systems. Students will complete special projects in the course designed to advance their electrical diagnosis and practical skills. Circuit design, high voltage electric vehicles, infotainment systems, and photovoltaics will be included in the course. Transfer Credit: CSU	1.0 UNITS		
AUTO 280 Diagnostic Engine Performance Class Hours: 3.0 Lecture / 3.0 Laboratory Total Contact Hours: 54 Lecture / 54 Laboratory Recommendation: AUTO 100 or equivalent with a grade of "C" or higher or "Pass", or appropriate work experience. This is a theory/practical course in diagnosing automotive drivability problems. Areas such as ignition, carburetion, automotive computers, electronic engine controls and on-board diagnostic systems will be included. Transfer Credit: CSU	4.0 UNITS		