

# AUTOMOTIVE TECHNOLOGY (AUTO)

## **AUTO 010 Introduction to Automotive Technology** **Units: 3**

This course provides an overview of the major components and systems found on modern automobiles. The course includes an overview of the automotive industry, shop safety, hand tools usage, basic theory of major automobile systems and basic vehicle maintenance and service. C-ID: AUTO 110X

Lecture Hours: 36    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

## **AUTO 011B Auto Electronics & Electrical Systems** **Units: 4**

This course provides theory and hands-on experience in the fundamentals of automotive electricity and electronics including basic electrical principles, circuit components, circuit types, electrical system service and maintenance, diagnosis and repair of common circuit malfunctions. The focus is then placed on foundational automotive electrical components and systems including: batteries, starting systems and charging systems with an emphasis on troubleshooting, diagnosis and repair of common electrical system malfunctions. A \$20.00 test fee for the appropriate Automotive Service Excellent (ASE) Student Exam is required. A uniform is required for this course.

Lecture Hours: 54    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 010 or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

## **AUTO 011C Advanced Automotive Electrical Systems** **Units: 4**

This course provides theory and hands-on experience in intermediate to advanced automotive body electricity circuits and systems including body control computers, bus communication, multiplexing, instrument panel circuits, an introduction to advanced driver assist systems (ADAS) and an introduction to passive restraint systems. There is a hands-on emphasis focusing on diagnosing, trouble-shooting and repairing intermediate to advanced body electrical system malfunctions. A uniform is required for this course.

Lecture Hours: 54    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 011B.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

## **AUTO 012A Automotive Suspension & Steering Systems** **Units: 4**

This course provides theory and hands-on experience in automotive steering and suspension systems including: theory of operation, service, diagnosis and repair. The course includes the following topics: front and rear suspension types, steering systems, four-wheel alignment, shocks, struts, tires and wheels. A \$20.00 test fee for the appropriate Automotive Service Excellent (ASE) Student Exam is required. A uniform is required for this course.

Lecture Hours: 54    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 010 or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

## **AUTO 013A Automotive Braking Systems** **Units: 4**

This course provides theory and hands-on experience in automotive braking systems including: theory of operation, service, diagnosis and repair including both base braking and anti-lock braking systems and components. A \$20.00 test fee for the appropriate Automotive Service Excellent (ASE) Student Exam is required. A uniform is required for this course.

Lecture Hours: 54    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

## **AUTO 014A Automotive Engine Management** **Units: 4**

This course provides theory and hands-on experience in the fundamentals of automotive engine management including: basic fuel injection, ignition systems and emission systems. The focus is then placed on foundational engine management components and systems including fuel injection, electronic ignition and emission control systems with an emphasis on servicing, troubleshooting, diagnosis and repair of common engine management malfunctions. A \$20.00 test fee for the appropriate Automotive Service Excellent (ASE) Student Exam is required. A uniform is required for this course.

Lecture Hours: 54    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 010 or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 014B Advanced Engine Management**

**Units: 4**

This course provides theory and hands-on experience in intermediate to advanced engine management systems including fuel injection, electronic ignition, emission controls, OBDII, as well as service and maintenance, diagnosis and repair of engine management malfunctions. The focus is then placed on advanced engine management components and systems including: computer inputs, outputs and control and OBDII logic with an emphasis on troubleshooting, diagnosis and repair of advanced engine management malfunctions. A uniform is required for this course.

Lecture Hours: 54    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 014A.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 015 Automotive Engine Diagnosis & Repair**

**Units: 4**

This course provides theory and hands-on experience in automotive engine mechanical systems including: theory of operation, service, diagnosis and repair including the following topics: valve train components and procedures, engine block components and procedures, disassembly and reassembly skills and engine mechanical troubleshooting tests. A \$20.00 test fee for the appropriate Automotive Service Excellent (ASE) Student Exam is required. A uniform is required for this course.

Lecture Hours: 45    Lab Hours: 81    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 010 or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 016 Automotive Manual Transmissions & Drive Train Systems**

**Units: 3**

This course provides theory and hands-on experience in manual transmissions/transaxles including: theory of operation, service, diagnosis and repair. The course includes the following topics: clutches, axles, driveshafts, transfer cases, differentials, electrical controls, diagnosis, troubleshooting and partial disassembly and reassembly. A \$20.00 test fee for the appropriate Automotive Service Excellent (ASE) Student Exam is required. A uniform is required for this course.

Lecture Hours: 36    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 010 or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 017 Automatic Transmissions & Transaxles**

**Units: 3**

This course provides theory and hands-on experience in automatic transmissions/transaxles including: theory of operation, service, diagnosis and repair. The course includes the following topics: torque converters, gear sets, hydraulic controls, electrical controls, diagnosis and troubleshooting and partial disassembly and reassembly. A \$20.00 test fee for the appropriate Automotive Service Excellent (ASE) Student Exam is required. A uniform is required for this course.

Lecture Hours: 27    Lab Hours: 81    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 010 or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 018 Automotive Heating, Ventilation & Air Conditioning**

**Units: 4**

This course provides theory and hands-on experience in automotive heating and air conditioning including: theory of operation, service, diagnosis and repair. The course includes the following topics: heating ventilation and air conditioning (HVAC) theory of operation, HVAC housing and ducting, HVAC controls, compressor and clutch operation and servicing and testing HVAC systems. A \$20.00 test fee for the appropriate Automotive Service Excellent (ASE) Student Exam is required. A uniform is required for this course. C-ID: AUTO 170X

Lecture Hours: 54    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 020A Automotive Quick Service**

**Units: 3**

This course provides theory and hands-on experience in performing key automotive services required by entry-level technicians in an automotive repair facility atmosphere. It is geared for those students entering the workforce as an automotive technician. A uniform is required for this course.

Lecture Hours: 18    Lab Hours: 108    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 011B AUTO-013A.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 021A Automotive Diagnosis & Troubleshooting**

**Units: 2**

This course provides an overview of Root Cause Analysis and its application as relevant to automotive diagnosis and troubleshooting. The focus is on electrical and drivability diagnosis, but includes guidelines for any vehicle system diagnosis and troubleshooting. The coursework will include scenario based diagnosis and cold circuit analysis. This course will help anyone interested in developing an effective, logical approach to automotive diagnosis and troubleshooting.

Lecture Hours: 36    Lab Hours: None    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 011B.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 040E CNG Diagnosis & Repair****Units: 4**

This course provides classroom lecture/discussion and hands-on training on CNG diagnosis and repair. The course is designed to introduce the service technician to safety, diagnostic and repair practices and procedures unique to gaseous fuel vehicles including: ignition, fuel delivery and emissions systems design, operation, diagnosis and service. A uniform is required for this course.

Lecture Hours: 54    Lab Hours: 54    Repeatable: No  
Grading: Letter

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 041B CNG Installation & Repair****Units: 3**

This course is designed to introduce students to CNG installation and basic service and repair. The following topics are covered in this course: gaseous fuel safety, CNG conversion advantages and disadvantages, and service of CNG conversions.

Lecture Hours: 36    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 042B Automotive Mechatronics****Units: 3**

This course provides the learners with the proper mindset and skills to service today's vehicles. The internal combustion motor is no longer the heart of vehicles, it is the electrical system. Vehicles are moving from a mechanical focused to an electrical focus. Automotive mechatronics will focus on the synergy between the mechanical, computer, software, and electrical systems of today's vehicle.

Lecture Hours: 36    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 011B or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 043A Intro to Hybrid, Electric & Fuel-Cell Vehicle Technology****Units: 3**

This course explores the use of Hybrid and Electric battery power for vehicle transportation. Topics will include safety when using high voltage, maintenance, drivability, inverter, DC/DC power transfer, and battery technology. Physics of battery storage, Hybrid generation systems, Electric vehicle applications and their integrated systems from many manufacturers will be discussed. Hybrid and high voltage service and maintenance procedures. This course will help prepare the learner to successfully complete the L-3 ASE exam.

Lecture Hours: 36    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 010 or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 043B Hybrid, Fuel-Cell & Electric Vehicle Diagnosis & Repair****Units: 3**

This course provides the learners with the skills to diagnose and repair basic to intermediate-level malfunctions with hybrid, fuel-cell, and electric vehicles.

Lecture Hours: 36    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 043A AUTO 011B or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 044B Advanced Driver Assist Systems (ADAS) Level 1****Units: 3**

This course offers knowledge and skills related to basic-level, advanced driver assist systems (ADAS). This will enhance the learner's knowledge and skills for employment and advancement within the automotive service industry.

Lecture Hours: 36    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 011B or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 044C Advanced Driver Assist Systems (ADAS) Level 2****Units: 2**

This course offers knowledge and skills related to intermediate-level, advanced driver assist systems (ADAS). This will enhance the learner's knowledge and skills for employment and advancement within the automotive service industry.

Lecture Hours: 18    Lab Hours: 54    Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 011B or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 045A Intro to Alternative Fuel Vehicles****Units: 2**

This course provides an overview of the major alternative fuel vehicles available to the transportation industry. The course includes a brief history of alternative fuels, an overview of alternative fuels including an analysis of the pros and cons of each fuel and discussions on whether an alternative fuel vehicle is right for you. It is an essential course for those interested in an alternative fuel certificate or degree.

Lecture Hours: 36    Lab Hours: None    Repeatable: No

Grading: Letter

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU    Degree Applicable: AA/AS

COD GE: None    CalGETC: None

**AUTO 046B Autonomous Vehicles**

**Units: 3**

This course offers knowledge and skills related to autonomous vehicle operation and service. This will enhance the learner's knowledge and skills for employment and advancement within the automotive service industry.

Lecture Hours: 36 Lab Hours: 54 Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 011B and AUTO 044B or concurrent enrollment.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU Degree Applicable: AA/AS

COD GE: None CalGETC: None

**AUTO 054D Smog Check Inspector Training Level 1&2**

**Units: 4**

This course is designed to provide students with fundamental knowledge of engine and emission control theory, design and operation. Students who successfully complete this training at a BAR-certified school will have met the BAR's training requirements to qualify to take the Smog Check Inspector state licensing examination.

Lecture Hours: 54 Lab Hours: 54 Repeatable: No

Grading: Letter

**Prerequisite:** None

Advisory: AUTO 014A.

Limitation on enrollment: None

Transfer Status: CSU Degree Applicable: AA/AS

COD GE: None CalGETC: None

**AUTO 054E Smog Check Diagnostic & Repair Technician**

**Units: 3**

This course is designed to provide students with fundamental knowledge of engine and emission control theory, design and operation. Students who successfully complete this training at a BAR-certified school will have met the BAR's training requirements to qualify to take the Smog Check Inspector state licensing examination.

Lecture Hours: 36 Lab Hours: 54 Repeatable: No

Grading: Letter

**Prerequisite:** AUTO 054D or concurrent enrollment.

Advisory: AUTO 014A.

Limitation on enrollment: None

Transfer Status: CSU Degree Applicable: AA/AS

COD GE: None CalGETC: None

**AUTO 093A Intro to Light & Medium Duty Diesel Systems**

**Units: 2**

This course is designed as an introduction to light duty diesel systems. Students will explore the operation and function of the key systems related to compression ignition engines. Students will learn safety of a repair shop, vehicles, and of environmental impact. Students will gain knowledge of diesel engine design, engine oil types, correct application, diesel emission systems, and fuel delivery systems.

Lecture Hours: 36 Lab Hours: None Repeatable: No

Grading: Letter

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU Degree Applicable: AA/AS

COD GE: None CalGETC: None

**AUTO 093B Light/Medium Duty Diesel Systems**

**Units: 4**

This course provides theory and hands-on experience in the fundamentals of light and medium duty diesel systems including: engine construction, lubrication, cooling, fuel delivery, and emission systems. In addition, this course covers maintenance and light repair.

Lecture Hours: 54 Lab Hours: 54 Repeatable: No

Grading: Letter

**Prerequisite:** None

Advisory: AUTO 010.

Limitation on enrollment: None

Transfer Status: CSU Degree Applicable: AA/AS

COD GE: None CalGETC: None

**AUTO 093D Diesel Diagnostics & Troubleshooting**

**Units: 2**

This course provides an overview of root cause analysis and its application as relevant to light and medium duty diesel systems diagnosis and troubleshooting. The focus is on fuel delivery, air induction, emissions, electrical and drivability diagnosis. The coursework will include scenario based diagnosis and cold circuit analysis. This course will help anyone interested in developing an effective, logical approach to diesel systems diagnosis and troubleshooting.

Lecture Hours: 36 Lab Hours: None Repeatable: No

Grading: Letter

**Prerequisite:** Prerequisite or

**Corequisite:** AUTO 093A.

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU Degree Applicable: AA/AS

COD GE: None CalGETC: None

**AUTO 095A Automotive Technology Work Experience**

**Units: 1-5**

This work experience course of supervised employment provides students the opportunity to connect academics to applied experiential learning in the workplace. It assists students in developing transferable employability skills, career awareness, learning industry culture, competencies and norms, and developing professional networks that support career mobility. To enroll, students must have a job or internship placement in a part-time or full-time capacity. Credit may be accrued at the rate of one to five (1-5) units per semester based on the student's ability to meet the hours required per unit enrolled. Students must work 54 hours per unit earned. This Work Experience course is available to students whose job or internship placement is directly related to Automotive Technology.

Lecture Hours: None Lab Hours: 270 Repeatable: Yes

Grading: Letter

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: CSU Degree Applicable: AA/AS

COD GE: None CalGETC: None

**AUTO 301 Automotive Terminology****Units: 0**

This course provides an introductory level explanation of the major automotive system components, and a brief description of component function. This course includes engine, transmission, suspension, steering, braking, heating and air conditioning, emissions, computer control, and exhaust systems. This course is designed to prepare learners for entry-level employment in the automotive field of parts.

Noncredit Hours: 16 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: ESLN 310D.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 304 Automotive Calculation****Units: 0**

This course includes an overview of the automotive industry with an emphasis on shop safety and service information.

Noncredit Hours: 16 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: ESLN 310D.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 305 Automotive Safety & Service Information****Units: 0**

This course includes an overview of the automotive industry with an emphasis on shop safety and service information.

Noncredit Hours: 16 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 306 Automotive Service: Oil Change****Units: 0**

This course provides theory and hands-on experience in performing key automotive services required by entry-level technicians in an automotive repair facility atmosphere. It is geared for those entering the workforce as an automotive technician.

Noncredit Hours: 18 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** AUTO 305.

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 307 Automotive Repair Facility Orientation****Units: 0**

This course provides theory and hands-on experience of orientation procedures and required entry-level skills representative of someone newly hired by an automotive service facility. A uniform is required for this course.

Noncredit Hours: 9 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** AUTO 306.

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 310 Automotive Components****Units: 0**

This course provides lecture activities pertaining to eight major system components of the automobile including components of the engine, transmission, suspension, steering, braking, heating and air conditioning, emissions, computer control systems, and exhaust systems.

Noncredit Hours: 16 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301 & ESLN 310A.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 325 Automotive Express Service****Units: 0**

This course provides lecture/laboratory activities performing common services on today's automobile generally performed at a "quick service station". These activities include proper fluid inspection, fluid services on serviceable systems, tire inspection and rotations, minor brake inspections, courtesy services, and customer service.

Noncredit Hours: 24 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 304 & ESLN 310A.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 340 CNG Fundamentals & Safety****Units: 0**

This course provides lecture/discussion on compressed natural gas (CNG) vehicle safety and operation. The course is designed to introduce the service technician to safety, operation, and basic practices and procedures unique to gaseous fuel vehicles.

Noncredit Hours: 36 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 340A CNG Component Function & Operation****Units: 0**

This course provides classroom lecture/discussion and interactive training on compressed natural gas (CNG) vehicle components, their function, and operation. This equips technicians to better service and repair CNG vehicles.

Noncredit Hours: 18 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** AUTO 340.

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 340B CNG Maintenance & Repair****Units: 0**

This course provides classroom lecture/discussion and interactive training on compressed natural gas (CNG) maintenance and repair procedures. This class is targeting skills required to obtain an entry-level position working on CNG vehicles.

Noncredit Hours: 18 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** AUTO 340.

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 340C CNG Diagnosis & Troubleshoot** **Units: 0**

This course provides classroom lecture/discussion and interactive training on CNG vehicle diagnosis and repair. The course is designed to introduce the service technician to safety, diagnostic and troubleshooting practices and procedures unique to gaseous fuel vehicles including: ignition, fuel delivery and emissions systems design, operation, diagnosis and service.

Noncredit Hours: 18 Repeatability: Yes

Grading: Pass/No Pass

**Prerequisite:** AUTO 340.

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 340D CNG Diagnosis with Scan Tool** **Units: 0**

This course provides classroom lecture/discussion and interactive training on compressed natural gas (CNG) vehicle diagnosis utilizing current scan tool diagnostics. The course is designed to introduce the service technician to intermediate and advanced scan tool diagnosis.

Noncredit Hours: 18 Repeatability: Yes

Grading: Pass/No Pass

**Prerequisite:** AUTO 340.

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 341A CNG Conversion & Installation A** **Units: 0**

This course will introduce learners to basic compressed natural gas (CNG) conversion and installation, focusing on applicable legislation, regulations and procedures for conversion of vehicle from gasoline to CNG. Topics include: review of gaseous fuel safety, CNG conversion/ installation and advantages and disadvantages.

Noncredit Hours: 30 Repeatability: Yes

Grading: Pass/No Pass

**Prerequisite:** AUTO 340.

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 341B Compressed Natural Gas (CNG) Conversion & Installation B** **Units: 0**

This course is designed to introduce learners to compressed natural gas (CNG) conversion/ installation basic service and repair. The following topics are covered in this course: review of gaseous fuel safety, review of CNG conversion/installation and service and repair of CNG conversions/ installations.

Noncredit Hours: 30 Repeatability: Yes

Grading: Pass/No Pass

**Prerequisite:** AUTO 340.

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 349 CNG Fuel System Inspection** **Units: 0**

This course helps to prepare technicians for the (CNG) Fuel System Inspection Certification Exam. It covers safety, fundamental operation and the information related to the installation and conversion regulations of CNG vehicles.

Noncredit Hours: 18

Repeatability: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 340.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 380A Oscilloscope Basics** **Units: 0**

This course offers knowledge and skills related to an industry standard, automotive oscilloscopes. The learner will be shown navigation, interpretation, and application of state-of-the-art automotive oscilloscopes. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 6

Repeatability: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 385 ASE Exam Preparation** **Units: 0**

This 6-hour course is designed to help technicians, and those pursuing a career in the automotive service industry, understand critical Automotive Service Excellence (ASE) exam skills, review relevant information, and practice taking exams. Learners will be shown how to sign up for the ASE exams and navigate the ASE website. A study plan will be developed; homework is required.

Noncredit Hours: 6

Repeatability: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 390A ShopKey Pro Level-1** **Units: 0**

This course is an introduction to an industry standard, automotive, service information system, ShopKey Pro. The learner will be shown basic navigation, interpretation, and application of electronic (Internet based) automotive service information. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 6

Repeatability: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 390B ShopKey Pro Level-2****Units: 0**

This course offers advanced-level knowledge and skills related to an industry standard, automotive, service information system, ShopKey Pro. The learner will be shown advanced navigation, interpretation, and application of electronic (Internet based) automotive service information. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 6

Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None

Degree Applicable: NONC

COD GE: None

CalGETC: None

**AUTO 390E Snap-on Digital Multimeter****Units: 0**

This course offers basic knowledge and skills related to industry standard digital multimeter (DMM) operation and usage. The learner will be shown navigation, interpretation, and application of a Snap-on digital multimeter. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 6

Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None

Degree Applicable: NONC

COD GE: None

CalGETC: None

**AUTO 390G Snap-on Battery Charging****Units: 0**

This course offers intermediate-level knowledge and skills related to an industry standard, automotive battery charging systems. The learner will be shown navigation, interpretation, and application of industry standard battery chargers and proper charging practices. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 6

Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None

Degree Applicable: NONC

COD GE: None

CalGETC: None

**AUTO 390H Snap-on Battery, Starting, Charging Systems Basics****Units: 0**

This course offers knowledge and skills related to an industry-standard, automotive battery, starting, and charging system testing. The learner will be shown navigation, interpretation, and application of industry standard battery, starting and charging testers. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 6

Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None

Degree Applicable: NONC

COD GE: None

CalGETC: None

**AUTO 390J Snap-on Battery, Starting, Charging Systems Diagnosis****Units: 0**

This course offers knowledge and skills related to an industry-standard basic, automotive battery, starting, and charging system diagnosis. The learner will be shown interpretation and diagnosis of common battery, starting, and charging system malfunctions. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 6

Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None

Degree Applicable: NONC

COD GE: None

CalGETC: None

**AUTO 390M Snap-on Precision Measurement****Units: 0**

This course offers basic knowledge and skills related to industry standard precision measurement tool care and operation. The learner will be shown how to locate specifications and procedures applicable to precision measurements. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 30

Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None

Degree Applicable: NONC

COD GE: None

CalGETC: None

**AUTO 390R Snap-On Tire Changer****Units: 0**

This course offers basic knowledge and skills related to industry tire changer operation. The learner will be shown how to locate specifications and procedures applicable to changing tires. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 6

Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None

Degree Applicable: NONC

COD GE: None

CalGETC: None

**AUTO 390S Snap-On Scan Tool Basics****Units: 0**

This course offers basic knowledge and skills related to industry-standard scan tool operation and usage. The learner will be shown navigation, interpretation, and application of Snap-on scan tools. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 8

Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None

Degree Applicable: NONC

COD GE: None

CalGETC: None

**AUTO 390T Snap-on Torque Measurement**

**Units: 0**

This course offers basic knowledge and skills related to industry-standard torque wrench operation and usage. The learner will be shown how to locate specifications and procedures applicable to fastener torque. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 16 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 390U Snap-on Tire Pressure Monitoring System (TPMS) Units: 0**

This course offers basic knowledge and skills related to industry-standard tire pressure monitoring system (TPMS) operation. The learner will be shown how to locate specifications and procedures applicable to the TPMS. This will enhance one of the required skills for employment and advancement within the automotive service industry.

Noncredit Hours: 6 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 410A Noise, Vibration, and Harshness**

**Units: 0**

This course offers knowledge and skills related to vehicle noise, vibration, and harshness (NVH) customer concerns. This will enhance the learner's essential skills for employment and advancement within the automotive service industry.

Noncredit Hours: 15 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 410M Automotive Manufacturer Update**

**Units: 0**

This course offers knowledge and skills relevant to service and repair of the latest vehicle systems and equipment updates provided by the manufacturers. This will enhance the learner's essential skills for employment and advancement within the automotive service industry.

Noncredit Hours: 30 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 411A Automotive Electrical Review**

**Units: 0**

This course offers an electrical review for those who have had some electrical exposure but need a refresher because they are trying to pass the Automotive Service Excellence (ASE) exam, better their position at their current job or gain employment in the automotive repair industry. This will enhance the learner's essential skills for employment and advancement within the automotive service industry.

Noncredit Hours: 8 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: AUTO 301.

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 777A Automotive Service Safety, Pollution Prevention, & Lift Institute**

**Units: 0**

This course is designed to complete the safety, knowledge-based training required for all lab-oriented courses and automotive careers. This course covers in detail, safety in the shop environment, first aid, pollution prevention, and lift safety. This course is designed to instill a solid foundation of Automotive service safety. Pass/No Pass grading scale requiring complete completion of S/P2 web-based training modules including successfully passing the final exam.

Noncredit Hours: 8 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None

**AUTO 778A Automotive Shop Sustainability**

**Units: 0**

This course is designed to complete the shop sustainability, knowledge-based training required for all lab-oriented courses and automotive careers. This course covers in detail, shop sustainability. Pass/No Pass grading scale requiring complete completion of SP2 web-based training modules including successfully passing the final exam.

Noncredit Hours: 4 Repeatable: Yes

Grading: Pass/No Pass

**Prerequisite:** None

Advisory: None

Limitation on enrollment: None

Transfer Status: None Degree Applicable: NONC

COD GE: None CalGETC: None