AUTOMOTIVE SERVICE AND TECHNOLOGY

The Automotive Technologies program provides students with the knowledge and skills necessary to gain entry into the automotive repair industry. This is a fun and rewarding field, providing high paying jobs and career opportunities for those people with the skills necessary to maintain, diagnose and repair today's incredibly complex automobiles.

Our program offers both a Certificate and an AS degree in Automotive Service and Technology to students who complete courses in all eight of the National Institute for Automotive Service Excellence (ASE) specialization areas: Engine Repair, Engine Performance, Heating and Air Conditioning, Electrical Systems, Automatic Transmissions, Manual Transmission and Axle, Brakes and Front End. We also offer courses designed to provide the renewal of emissions licensing, hybrid vehicle service techniques, update a technician's industry skills and retraining opportunities for entry-level employment.
SBCC's Automotive Technologies program is a NATEF (ASE) certified Master Training Institution with all new/updated labs/classrooms and all of our instructors are NIASE (ASE) certified Master Technicians.

Programs of Study

Associate Degree

- Automotive Service and Technology, Associate of Science (AS) (https://catalog.sbcc.edu/academic-departments/automotive-service-technology/automotive-service-technology-associate-science-as/)

Certificate of Achievement

- Automotive Service and Technology, Certificate of Achievement (C) (https://catalog.sbcc.edu/academic-departments/automotive-service-technology/automotive-service-technology-certificate-achievement/)
- Automotive Basic Maintenance and Light Repair Technician (C) (https://catalog.sbcc.edu/academic-departments/automotive-service-technology/automotive-basic-maintenance-and-light-repair-technician-certificate-achievement/)

Credit Courses

Automotive Services & Technology (AUTO)

AUTO 101 Introduction to Auto Mechanics (3 Units)
Hours: 54 (54 lecture)
Lecture/demonstration course introducing the operation and maintenance of the modern automobile; emphasis on the theory of basic operating systems, including engine, electrical, chassis and driveline.
Transfer Information: CSU Transferable

AUTO 101A Introduction to Auto Mechanics (3 Units)
Hours: 54 (54 lecture)
Lecture/demonstration course introducing the operation and maintenance of the modern automobile and shop safety; emphasis on the theory of basic operating systems including the electrical, fuel ignition, and electronics and computer controls.
Transfer Information: CSU Transferable

AUTO 101B Introduction to Auto Mechanics (3 Units)
Hours: 54 (54 lecture)
Lecture/demonstration course introducing the operation and maintenance of the modern automobile and shop safety. Basic operating systems covered include cooling, brake, steering, suspension, drivetrain and air conditioning systems.
Transfer Information: CSU Transferable

AUTO 102 Basic Car Care, Maintenance and Repair (3 Units)
Hours: 90 (36 lecture, 54 lab)
Introductory study and practice in basic car care, maintenance and repair. Students acquire laboratory experience, performing service and minor repairs.
Transfer Information: CSU Transferable

AUTO 110 Fundamentals of Automotive Servicing (4 Units)
Course Advisories: AUTO 101.
Hours: 108 (54 lecture, 54 lab)
Introductory lecture/lab course covering maintenance and diagnostic procedures used in the automotive service industry. Lab exercises cover maintenance and service areas of engine lubrication, under hood, undercar, tire and wheel, cooling system, belts and hoses, fuel system, battery and electrical system, brakes and wheel bearings.
Transfer Information: CSU Transferable

AUTO 110A Fundamentals of Auto Servicing (3 Units)
Hours: 90 (36 lecture, 54 lab)
Introductory lecture/lab course covering maintenance and diagnostic procedures used in the automotive service industry. Emphasis on lubrication, under-hood and under-car inspections, electrical systems service, fuel and ignitions systems service, and computer control diagnosis.
Transfer Information: CSU Transferable

AUTO 110B Fundamentals of Auto Servicing (3 Units)
Hours: 90 (36 lecture, 54 lab)
Introductory lecture/lab course covering maintenance and diagnostic procedures used in the automotive service industry. Topics include cooling system service, brake tire and wheel service, suspension and steering service, and drivetrain service.
Transfer Information: CSU Transferable

AUTO 111 Engine Rebuilding (7 Units)
Same as: AUTO 140
Course Advisories: AUTO 101 and AUTO 110.
Hours: 234 (72 lecture, 162 lab)
Lecture/lab course on generic theory and repair of automotive engines. The valve train and lower end assemblies are covered in detail. Engine problem diagnosis, service and repair, engine rebuilding and machining, and performance enhancement emphasized.
Transfer Information: CSU Transferable

AUTO 112 Brakes, Suspension and Steering (4.6 Units)
Same as: AUTO 150
Course Advisories: AUTO 101 and AUTO 110.
Hours: 135 (54 lecture, 81 lab)
Principles of brakes, suspension, steering systems, wheel alignment and tire service. Includes disc and drum brakes, brake power assist units, anti-lock braking, tire service, wheel balancing and wheel alignment. Live vehicle laboratory study of lecture material. NATEF-certified course.
Transfer Information: CSU Transferable

AUTO 113 Automotive Fuel and Air Conditioning Systems (4.6 Units)
Same as: AUTO 180
Course Advisories: AUTO 101 and 110.
Hours: 144 (54 lecture, 90 lab)
Principles of automotive fuel supply systems, carburetion, fuel injection heating, ventilation and air conditioning (HVAC) systems. Live vehicle repair in lab. NATEF-certified course.
Transfer Information: CSU Transferable

AUTO 114 Automotive Power Train (7 Units)
Same as: AUTO 190
Prerequisites: AUTO 111.
Course Advisories: AUTO 101 and AUTO 110.
Hours: 234 (72 lecture, 162 lab)
Principles of the automotive power train, including the clutch, standard and automatic transmissions and transaxles, C/V joints, drive shafts and differentials. NATEF-certified course with live vehicle lab study of lecture material.
Transfer Information: CSU Transferable

AUTO 115 Automotive Electricity (7 Units)
Course Advisories: AUTO 101 and 110.
Hours: 216 (81 lecture, 135 lab)
Lecture/lab study of the complete automotive electrical system, including theory, the battery, starting system, charging system, wiring, lighting and body electrical systems. Theory of operation covered in lecture; testing, diagnosis and repair applied in lab. NATEF-certified course.
Transfer Information: CSU Transferable

AUTO 116 Engine Performance (7 Units)
Same as: AUTO 170
Course Advisories: AUTO 101 and AUTO 110.
Hours: 216 (81 lecture, 135 lab)
Principles of engine performance diagnosis and maintenance, ignition and emission controls. Drivability, vehicle emissions and fuel economy concerns is also addressed. Lab study includes engine condition testing, ignition system testing, emission testing and electronic scan tools.
Transfer Information: CSU Transferable

AUTO 120 Automotive Business and Soft Skills (4 Units)
Hours: 72 (72 lecture)
Presents the operation of automotive business, discussion of various industry roles, and best practices for obtaining and retaining employment in the automotive industry. This course offers preparation for the ASE (Automotive Service Excellence) C1 industry certification test. This ASE Education accredited course provides hands-on application of lecture materials. Employability skills will be discussed and practiced in this course, including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 130 Automotive Maintenance & Light Repair (4.5 Units)
Hours: 135 (54 lecture, 81 lab)
Presents the theory, operation, maintenance, and light repair of modern automotive vehicle systems . This course offers preparation for the ASE (Automotive Service Excellence) G1 industry certification test. This ASE Education certified course provides hands-on application of lecture materials in the lab. Employability skills will be discussed and practiced in this course, including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 140 Automotive Engines (4.5 Units)
Same as: AUTO 111
Hours: 135 (54 lecture, 81 lab)
Presents the theory, operation, diagnosis, service, and repair of automotive internal combustion engines. This course offers preparation for the ASE (Automotive Service Excellence) A1 industry certification test. This ASE Education accredited course provides hands-on application of lecture materials in the lab. Employability skills will be discussed and practiced in this course, including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 150 Automotive Brakes, Suspension, & Steering Systems (4.5 Units)
Same as: AUTO 112
Hours: 135 (54 lecture, 81 lab)
Presents the theory, operation, diagnosis, service, and repair of automotive brakes, suspension, and steering systems, including disc and drum brakes, electronic braking systems, tire service, and wheel alignment. This course offers preparation for the ASE (Automotive Service Excellence) A4 and A5 industry certification tests. This ASE Education accredited course provides hands-on application of lecture materials in the lab. Employability skills will be discussed and practiced in this course including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 160 Automotive Electricity and Electronic Systems (4.5 Units)
Same as: AUTO 115
Hours: 135 (54 lecture, 81 lab)
Presents the theory, operation, diagnosis, service, and repair of automotive electrical/electronic systems. This course offers preparation for the ASE (Automotive Service Excellence) A6 industry certification test. This ASE Education accredited course provides hands-on application of lecture materials in the lab. Employability skills will be discussed and practiced in this course, including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 170 Automotive Engine Performance (4.5 Units)
Same as: AUTO 116
Corequisites: AUTO 160.
Hours: 135 (54 lecture, 81 lab)
Concurrent Presents the theory, operation, diagnosis, service, and repair of automotive engine performance systems. This course offers preparation for the ASE (Automotive Service Excellence) A8 industry certification test. This ASE Education accredited course provides hands-on application of lecture materials in the lab. Employability skills will be discussed and practiced in this course, including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 180 Automotive Heating and Air Conditioning Systems (3 Units)
Same as: AUTO 113
Corequisites: AUTO 160.
Hours: 90 (36 lecture, 54 lab)
Concurrent Presents the theory, operation, diagnosis, service, and repair of automotive heating and air conditioning components. This course offers preparation for the ASE (Automotive Service Excellence) A7 industry certification test. This ASE Education accredited course provides hands-on application of lecture materials in the lab. Employability skills will be discussed and practiced in this course, including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 190 Automotive Drivetrain Systems (4.5 Units)
Same as: AUTO 114
Corequisites: AUTO 160.
Hours: 135 (54 lecture, 81 lab)
Concurrent Presents the theory, operation, diagnosis, service, and repair of automotive drivetrain systems, including automatic transmissions/transaxles, manual transmissions/transaxles, and driveline components. This course offers preparation for the ASE (Automotive Service Excellence) A2 and A3 industry certification tests. This ASE Education accredited course provides hands-on application of lecture materials in the lab. Employability skills will be discussed and practiced in this course, including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 200 Automotive Advanced Diagnosis & ADAS (3 Units)
Corequisites: AUTO 160.
Hours: 90 (36 lecture, 54 lab)
Concurrent Presents the theory, operation, diagnosis, service, and repair of advanced engine performance and driver assistance systems (ADAS). This course offers preparation for the ASE (Automotive Service Excellence) L1 and L4 specialist industry certification tests. This ASE Education accredited course provides hands-on application of lecture materials in the lab. Employability skills will be discussed and practiced in this course, including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 207 Smog Check Technician Update (1 Unit)
Hours: 18 (18 lecture)
The California Bureau of Auto Repair (BAR) requires this course for anyone applying for an EA or EB smog check license. Also required as update training for anyone interested in renewing a smog check license from January 1, 2005 through December 31, 2007. Covers BAR program updates, "Lambda" air/fuel calculations, operation of wide range of air/fuel sensors, and diagnosing emission failure problems using scan tool data stream analysis.

AUTO 210 Automotive Hybrid and Electric Vehicle Systems (4.5 Units)
Same as: AUTO 221
Corequisites: AUTO 160 Presents the theory, operation, diagnosis, service, and repair of automotive hybrid and electric vehicle systems.
Hours: 135 (54 lecture, 81 lab)
Concurrent This course offers preparation for the ASE (Automotive Service Excellence) L3 industry certification test. This ASE Education accredited course provides hands-on application of lecture materials in the lab. Employability skills will be discussed and practiced in this course, including: effective time management, maintaining a professional attitude working in a culturally diverse workplace, and industry-standard organizational habits and ethical behavior.
Transfer Information: CSU Transferable

AUTO 217 Automotive Specialty I (2 Units)
Prerequisites: AUTO 112 or AUTO 113.
Hours: 108 (108 lab)
Designed to further increase the skills and knowledge of students in the ASE (Automotive Service Excellence) specialty areas of brakes, steering, suspension or air-conditioning, working to trade standards.

AUTO 218 Automotive Specialty II (3 Units)
Prerequisites: AUTO 111 or AUTO 114 or AUTO 115 or AUTO 116.
Hours: 162 (162 lab)
Advanced lab course designed to further increase the skills and knowledge of students in the ASE (Automotive Service Excellence) specialty area(s) of engine repair, automotive electricity, automotive powertrain, or engine performance, working to trade standards.

AUTO 221 Principles of Hybrid and Electric Drives (1.6 Unit)
Hours: 72 (27 lecture, 45 lab)
Study of hybrid, plug-in hybrid and electric vehicle powertrains. Topics include high-voltage battery packs, inverters and motor-generators. This lecture/demonstration course will include hands-on exercises using a second generation Toyota Prius in a lab setting. Course is suitable for anyone interested in advanced automotive technology.
Transfer Information: CSU Transferable

AUTO 290 Work Experience In Automotive Service And Technology (1-4 Units)
Hours: 300 (300 lab)
Automotive majors only. Students must be enrolled in at least one class (other than Work Experience) in their major, plus have a major-related work experience station. Supervised automotive employment for students whose career objectives, automotive course studies and employment complement each other. The student must be employed in an occupation directly related to the Automotive major. Must also be enrolled in no less than seven (7) units, including Work Experience. Course restricted to 3 repetitions