Automotive Service and Technology

Program Description
The automotive industry has long recognized the need for skilled, highly trained service technicians. The consumer movement has turned that need into a demand. Today's automobile is a sophisticated, complex machine which requires skilled technicians to keep it running smoothly.

Santa Barbara City College offers two programs in Automotive Service and Technology. It also provides updated auto skills, retraining and entry-level employment courses, all offered for lifelong careers with good pay and working conditions and a chance to advance in the exciting high-tech automotive industry.

SBCC's Automotive program is certified by the National Institute for Automotive Service Excellence (ASE) as a “Master” training institution, having met the strict industry standards in all eight of the automotive specialty areas. The eight areas of ASE specialization are: Engine Repair, Engine Performance, Heating and Air Conditioning, Electrical Systems, Automatic Transmissions, Manual Transmission and Axle, Brakes and Front End.

Program Cost and Outcome
For planning purposes, the website below provides information on the cost of attendance, program length (assuming a student attends full-time), financing options and historical student completion rates:

http://www.sbcc.edu/financialaid/gainfulemployment

Programs of Study
- Automotive Service and Technology, Associate in Science (AS) (https://catalog.sbcc.edu/academic-departments/automotive-service-technology/automotive-service-technology-associate-science-as)
- Automotive Service and Technology, Certificate of Achievement (C) (https://catalog.sbcc.edu/academic-departments/automotive-service-technology/automotive-service-technology-associate-achievement)

Credit Courses

Automotive Services & Technology (AUTO)

AUTO 101 Introduction To Auto Mechanics (3 Units)
Skills Advisories: Eligibility for ENG 103.
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. The basic operating systems covered are the 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.
Skills Advisories: Eligibility for ENG 103.
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 will be on lubrication, under hood and undercar 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 will 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)
Course Advisories: AUTO 101 and AUTO 110.
Skills Advisories: Eligibility for ENG 98 and 103.
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)
Course Advisories: AUTO 101 and AUTO 110.
Skills Advisories: Eligibility for ENG 103.
Hours: 144 (54 lecture, 90 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

Automotive Service and Technology
AUTO 113 Automotive Fuel and Air Conditioning Systems (4.6 Units)
Course Advisories: AUTO 101 and 110.
Skills Advisories: Eligibility for English 98 and 103.
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)
Prerequisites: AUTO 111.
Course Advisories: AUTO 101 and AUTO 110.
Skills Advisories: Eligibility for ENG 98 and ENG 103.
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.
Transfer Information: CSU Transferable

AUTO 115 Automotive Electricity (7 Units)
Course Advisories: AUTO 101 and 110.
Skills Advisories: Eligibility for ENG 103; proficiency in MATH 1.
Hours: 216 (81 lecture, 135 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)
Course Advisories: AUTO 101 and AUTO 110.
Skills Advisories: Eligibility for ENG 98 and 103.
Hours: 216 (81 lecture, 135 lab)
Principles of engine performance diagnosis and maintenance, ignition, and emission controls. Drivability, vehicle emissions, and fuel economy concerns will also be addressed. Lab study includes engine condition testing, ignition system testing, emission testing and electronic scan tools.
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 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)
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: 54 (18 lecture, 36 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)
Skills Advisories: Eligibility for ENG 98 and ENG 103.
Hours: 300 (300 lab)
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