

# AUTOMOTIVE CAREER EDUCATION

See also Automotive (<http://catalog.vcccd.edu/ventura/programs-courses/automotive/>)

## Credit Courses

### ACE V11 Automotive Vehicle Maintenance 3 Units

*In-Class Hours:* 35 lecture, 70 laboratory

This course is a prerequisite for all automotive coursework and prepares students for an entry level position as a maintenance technician.

The course covers automotive industry structure, successful career building techniques, employee and employer responsibilities, shop safety procedures, tools and equipment, vehicle inspections, and basic maintenance, service, and repair procedures. Partial preparation for ASE (Automotive Service Excellence) G1 (Maintenance Technician Certification) is provided. The course also determines which automotive work experience path is best suited for each student and determines the most appropriately matched program cohort.

**Grade Modes:** Letter Graded

**Field Trips:** Will be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

### ACE V12 Automotive Electrical Systems I 4 Units

*In-Class Hours:* 35 lecture, 105 laboratory

*Prerequisites:* ACE V11 or concurrent enrollment

This course provides technical preparation in the skills required to service, inspect, and repair base automotive electrical systems.

**Grade Modes:** Letter Graded

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

### ACE V13 Automotive Engine Repair 4 Units

*In-Class Hours:* 35 lecture, 105 laboratory

*Prerequisites:* ACE V11 or concurrent enrollment

This course provides technical preparation in the skills required to diagnose, adjust, maintain, and repair automotive engines.

**Grade Modes:** Letter Graded

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

### ACE V21 Automotive Brake Systems 4 Units

*In-Class Hours:* 35 lecture, 105 laboratory

*Prerequisites:* ACE V11 or concurrent enrollment

This course provides technical preparation in the skills required to inspect, service, and repair automotive brake systems.

**Grade Modes:** Letter Graded

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

### ACE V22 Automotive Steering and Suspension Systems 4 Units

*In-Class Hours:* 35 lecture, 105 laboratory

*Prerequisites:* ACE V11 or concurrent enrollment

This course provides technical preparation in the skills required to inspect, service, and repair automotive steering and suspension systems.

**Grade Modes:** Letter Graded

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

### ACE V23 Automotive Electrical Systems II 4 Units

*In-Class Hours:* 35 lecture, 105 laboratory

*Prerequisites:* ACE V12

This course provides technical preparation in the skills required to diagnose automotive electronic systems.

**Grade Modes:** Letter Graded

**Field Trips:** Will be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

### ACE V31 Automotive Heating and Air Conditioning 4 Units

*In-Class Hours:* 35 lecture, 105 laboratory

*Prerequisites:* ACE V12

This course provides technical training and skills preparation required to service, diagnose, and repair automotive heating, ventilation, and air conditioning systems.

**Grade Modes:** Letter Graded

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

### ACE V32 Automotive Engine Management 4 Units

*In-Class Hours:* 35 lecture, 105 laboratory

*Prerequisites:* ACE V12 and ACE V13

This course provides technical preparation in the skills required to diagnose base engine control management systems.

**Grade Modes:** Letter Graded

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

### ACE V33 Automotive Manual Transmissions and Transaxles 4 Units

*In-Class Hours:* 35 lecture, 105 laboratory

*Prerequisites:* ACE V11

This course provides technical knowledge and skills preparation for the theory, service, diagnosis, and repair of front-wheel drive/rear-wheel drive manual transmissions/transaxles and driveline systems.

**Grade Modes:** Letter Graded

**Field Trips:** May be required

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

### ACE V41 Automotive Automatic Transmissions and Transaxles 4 Units

*In-Class Hours:* 35 lecture, 105 laboratory

*Prerequisites:* ACE V12

This course provides technical preparation in the skills required to inspect, service, and repair automatic transmissions and transaxles.

**Grade Modes:** Letter Graded

**Degree Applicability:** Applies to Associate Degree

**AA/AS GE:** None

**Transfer Credit:** None

**ACE V42 Automotive Engine Driveability 4 Units***In-Class Hours:* 35 lecture, 105 laboratory*Prerequisites:* ACE V32

This course focuses on the diagnosis of engine management systems with an emphasis on OBD II, misfire, fuel trims, emission systems, and interrelated systems.

**Grade Modes:** Letter Graded**Degree Applicability:** Applies to Associate Degree**AA/AS GE:** None**Transfer Credit:** None**ACE V43 Automotive Hybrid Systems Repair and Diagnosis 3 Units***In-Class Hours:* 35 lecture, 70 laboratory*Prerequisites:* ACE V31 and ACE V32

This course takes an in-depth look at the operation, diagnosis, and service of hybrid (HEV), plug-in hybrid (PHEV), and electric vehicles (EV). Topics include safety and personal protective equipment (PPE); low voltage systems; high voltage systems; high voltage batteries; inverter/converters; transaxles; electric motors; Atkinson Cycle internal combustion engines (ICE); heating, ventilation, and air-conditioning (HVAC) systems; braking/regenerative braking; and steering systems. The course includes preparation for the ASE L3 Light duty hybrid/electric vehicles exam.

**Grade Modes:** Letter Graded**Field Trips:** May be required**Degree Applicability:** Not applicable for degree credit**AA/AS GE:** None**Transfer Credit:** None**ACE V70 Smog Inspection Procedures 3.5 Units***In-Class Hours:* 35 lecture, 87.5 laboratory*Advisories/Rec Prep:* 1-year of related automotive experience or formal automotive training

This course provides students with the basic knowledge and skills to perform California Smog Inspections. The course provides Smog Inspector Level 1 and Level 2, update, and citation training and meets standards set forth by the California Bureau of Automotive Repair (BAR).

**Grade Modes:** Letter Graded**Degree Applicability:** Not applicable for degree credit**AA/AS GE:** None**Transfer Credit:** None

## Noncredit Courses

**ACE N171 Smog Inspection Procedures I 0 Units**

This non-credit course provides the basic knowledge and skills to service, adjust, and repair engine performance and emissions systems as related to the Smog Check Inspection Program. The course meets the California Bureau of Automotive Repair Smog Check Inspector Level 1 certification requirements. This is a noncredit course, non-degree applicable.

**Grade Modes:** Pass/No Pass Grading**Repeatable for Credit:** Unlimited.**Field Trips:** May be required**Degree Applicability:** Noncredit course; not applicable for degree credit**AA/AS GE:** None**Transfer Credit:** None**ACE N172 Smog Inspection Procedures Level II 0 Units**

This non-credit course provides students with the procedural skills, knowledge, and abilities to perform Smog Check Inspections. The course meets the California Bureau of Automotive Repair Smog Check Inspector Level 2 certification requirements.

**Grade Modes:** Pass/No Pass Grading, Non-Graded**Repeatable for Credit:** Unlimited.**Field Trips:** May be required**Degree Applicability:** Noncredit course; not applicable for degree credit**AA/AS GE:** None**Transfer Credit:** None**ACE N173 Smog Procedures Update 0 Units**

This course provides students with current and emerging emissions control and smog inspection technology updates. On-Board Diagnostics II, emissions systems, and diagnostic test equipment are emphasized. This is a noncredit course, not degree applicable.

**Grade Modes:** Pass/No Pass Grading**Repeatable for Credit:** Unlimited.**Field Trips:** May be required**Degree Applicability:** Noncredit course; not applicable for degree credit**AA/AS GE:** None**Transfer Credit:** None

- Automotive Career Education, Associate in Science (<http://catalog.vcccd.edu/ventura/programs-courses/automotive-career-education/automotive-career-education-as/>)
- Automotive Career Education Expert Technician, Certificate of Achievement (<http://catalog.vcccd.edu/ventura/programs-courses/automotive-career-education/automotive-career-education-expert-technician-coa/>)
- Automotive Maintenance Technician, Certificate of Achievement (<http://catalog.vcccd.edu/ventura/programs-courses/automotive-career-education/automotive-maintenance-technician-coa/>)
- Automotive Performance Technician, Certificate of Achievement (<http://catalog.vcccd.edu/ventura/programs-courses/automotive-career-education/automotive-performance-technician-coa/>)
- Automotive Repair Technician, Certificate of Achievement (<http://catalog.vcccd.edu/ventura/programs-courses/automotive-career-education/automotive-repair-technician-coa/>)
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