AT R148: SMOG CHECK PROCEDURES

Originator
kevin_corse1

College
Oxnard College

Discipline (CB01A)
AT - Automotive Technology

Course Number (CB01B)
R148

Course Title (CB02)
Smog Check Procedures

Banner/Short Title
Smog Check Procedures

Credit Type
Credit

Start Term
Spring 2021

Formerly
AT R048 - Smog Check Procedures

Catalog Course Description
This course will provide students with the knowledge, skills, and abilities needed to perform smog check inspections. Students who successfully complete this course will have met the California Bureau of Automotive Repair's training requirements to qualify to sit for the smog check inspector licensing examination.

Taxonomy of Programs (TOP) Code (CB03)
0948.00 - *Automotive Technology

Course Credit Status (CB04)
D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)
B (Transferable to CSU only)

Course Basic Skills Status (CB08)
N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)
C - Clearly Occupational

Course Cooperative Work Experience Education Status (CB10)
N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)
Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)
N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)
Y - Not Applicable

Course Noncredit Category (CB22)
Y - Credit Course

Funding Agency Category (CB23)
Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)
1 - Program Applicable

General Education Status (CB25)
Y - Not Applicable

Support Course Status (CB26)
N - Course is not a support course

Field trips
May be required

Grading method
Letter Graded

Alternate grading methods
Credit by exam, license, etc.

Does this course require an instructional materials fee?
No

Repeatable for Credit
No

Is this course part of a family?
No

Units and Hours

Carnegie Unit Override
No

In-Class

Lecture
Minimum Contact/In-Class Lecture Hours
52.5
Maximum Contact/In-Class Lecture Hours
52.5

Activity

Laboratory

Total in-Class

Total in-Class
Total Minimum Contact/In-Class Hours
52.5
Total Maximum Contact/In-Class Hours
52.5

Outside-of-Class

Internship/Cooperative Work Experience

Paid

Unpaid

Total Outside-of-Class

Total Outside-of-Class
Minimum Outside-of-Class Hours
105
Maximum Outside-of-Class Hours
105

Total Student Learning

Total Student Learning
Total Minimum Student Learning Hours
157.5
Total Maximum Student Learning Hours
157.5

Minimum Units (CB07)
3
Maximum Units (CB06)
3

Advisories on Recommended Preparation
AT R113

Student Learning Outcomes (CSLOs)

	Upon satisfactory completion of the course, students will be able to:
1	Students will demonstrate how to verify that a given vehicle has all the required smog control systems as required by the State of California, bureau of automotive repair.
2	Students will be able to demonstrate their ability to identify, retrieve, and apply basic automotive technical information including but not limited to online information.
3	Student will be able to correctly determine a vehicle has reached proper operating temperature.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1	Describe and demonstrate personal, shop, equipment, and vehicle safety practices.
2	Describe the laws, regulations, and procedures associated with consumer.
3	Describe the standards of practice expected of smog check inspectors. Perform smog check emission tests on various vehicles.
4	Perform smog check visual inspections on various vehicles.
5	Perform smog check functional tests on various vehicle designs.

Course Content

Lecture/Course Content

1. Safety
    a. Personal
    b. Shop

   c. Equipment
   d. Vehicle
2. Program Overview
3. Standards of practice/station
4. Program administration
   a. Laws and regulations
   b. Station requirements
   c. Inspector requirements
   d. Technician requirements
   e. Station operation
   f. Station audits
   g. Repair assistance and cost waivers
   h. Referee services
5. Consumer authorization
   a. Estimates
   b. Invoices
6. Vehicle Identification
   a. Affected vehicles
   b. Exempted vehicles
   c. Directed vehicles
   d. Certification type
   e. Specially constructed vehicles
   f. Military personnel
   g. Fleet vehicles
   h. Emissions inspection system vehicle entries
7. Calibration of inspection equipment and devices
   a. Equipment maintenance
   b. Emissions inspection system
   c. Low pressure fuel evaporation tester
8. Visual inspection procedures: gasoline and diesel
   a. Pass fail criteria (tampered, defective)
   b. Vehicle emissions control label information
   c. BAR referee label
   d. Aftermarket parts label
   e. Crankcase emission controls
   f. Evaporative emission controls
   g. Thermostatic air cleaner
   h. Air injection systems
   i. Ignition spark controls
   j. Exhaust after treatment systems
   k. Exhaust gas recirculation systems
   l. Liquid fuel leak inspection
   m. Other engine and emission control systems
   n. Gasoline visible smoke test
   o. Diesel visible smog test
   p. Emissions inspection system entries
9. Emission test procedures
   a. Safety precautions
   b. Test applications
   c. Vehicle preconditioning
   d. Acceleration simulation mode
   e. Two-speed idle
10. Functional inspection procedures
   a. Test application
   b. Malfunction indicator light
   c. OBDII
   d. Ignition timing
   e. Exhaust gas recirculation system

   f. Fuel cap integrity
   g. Low pressure fuel evaporative test (LPFET)
   h. Emission inspection system
11. Smog check inspection results
   a. Vehicle inspection report
   b. Vehicle passes inspection
   c. Vehicle fails inspection

Laboratory or Activity Content

None

Methods of Evaluation

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):

Problem solving exercises
Skills demonstrations
Written expression

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Group projects
Individual projects
Laboratory activities
Laboratory reports
Oral presentations
Portfolios
Skills demonstrations
Skill tests

Instructional Methodology

Specify the methods of instruction that may be employed in this course

Audio-visual presentations
Class activities
Class discussions
Case studies
Distance Education
Demonstrations
Field trips
Internet research
Lecture
Small group activities

Describe specific examples of the methods the instructor will use:

1. Lecture on State smog laws, regulations, and inspection procedures
2. Instructor-guided review of smog check failure vehicles
3. Instructor led demonstrations of smog testing equipment
4. Class discussions with worksheets about legal work order forms
5. Worksheet based review of test procedures set by the Bureau of Automotive Repair

Representative Course Assignments

Writing Assignments

1. Written reports and repair orders will be required.
2. Problem solving: Students will use learned skills to problem solve hypothetical and real vehicle emission control and OBD II failures. Students will analyze the vehicle's data stream to solve emission and drivability problems.

Critical Thinking Assignments

1. Research chemical components of automobile emissions.
2. Understand the function of a catalytic converter.
3. Understand how chemical reaction changes from harmful smog to harmless vapor.

Reading Assignments

1. Weekly reading assignments will be assigned from the adopted text and handout materials.

Skills Demonstrations

1. Proper use of smog equipment.
2. Proper interpretation of emissions reports.
3. Understand corrective actions to minimize emissions.
4. Proper use and care of a dynomometer.

Other assignments (if applicable)

1. Research: Service manuals and computer information will be used to research vehicle information.
2. Field trips: Local automotive smog check facilities to observe a smog check inspection in progress.

Outside Assignments

Representative Outside Assignments

1. Complete Bureau of Automotive Repair Smog Licensing Basic Training
2. Apply for Smog License
3. Research Periodicals
4. Research Bar Blast for Smog violations

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Resource Type
Textbook

Classic Textbook
No

Description
Bureau of Automotive Repair. Smog Check Reference Guide, Bureau of Automotive Repair, 2012 State of California. (2017)

Resource Type
Textbook

Classic Textbook
No

Description
Bureau of Automotive Repair. Write It Right, Bureau of Automotive Repair, 2013 State of California.

Description
Automotive Laws and Regulations, State of California, 2013 State of California.

Resource Type
Textbook

Classic Textbook
No

Description
Smog Check Inspection Procedures Manual, Bureau of Automotive Repair, 2013 State of California.

Library Resources

Sufficient Library Resources exist
Yes

Distance Education Addendum

Definitions

Distance Education Modalities
Hybrid (51%–99% online)
Hybrid (1%–50% online)
100% online

Faculty Certifications

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.
Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.
Yes

Regular Effective/Substantive Contact

Hybrid (1%–50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.

E-mail	E-mail E-mail, class announcements and various learning management system tools such as “Message Students Who” and “Assignment Comments”, will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and faculty provided email accounts.
Face to Face (by student request; cannot be required)	Students will have direct face-to-face contact with instructor during weekly class meetings. This time will provide the opportunity for students to discuss and ask questions about the material to facilitate student learning objectives and course outcomes. The instructor will also hold weekly, scheduled office hours for students to be able to meet and discuss course materials or individual progress. Students can request additional in-person or web conferencing meetings with faculty member as needed. Faculty may encourage online students to form “study groups” in person or online. Note: For hybrid classes, face-to-face class time will provide opportunities for students to discuss amongst themselves (in groups or pairs) and ask questions about the material to facilitate SLOs and course outcomes.
Other DE (e.g., recorded lectures)	Faculty may use a variety of ADA compliant tools and media integrated within the learning management system to help students reach SLO competency. Tools may include: o Recorded Lectures, Narrated Slides, Screencasts o Instructor created content o OC Online Library Resources o Canvas Peer Review Tool o Canvas Student Groups (Assignments, Discussions) o 3rd Party (Publisher) Tools (MyOpenMath) o Websites and Blogs o Multimedia (YouTube, Films on Demand, 3CMedia, Khan Academy, etc.)
Synchronous Dialog (e.g., online chat)	Instructor may provide a set time each week where they will be available for synchronous chat and be available in the discussion board and can answer questions in live time.
Video Conferencing	Video tools such as ConferZoom can be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Video Conferences will be used to facilitate SLOs and student-to-student group meetings will also be encouraged.
Telephone	Students can request for instructor to call or vice versa in order to answer one-on-one questions about course material or student progress.

Hybrid (51%–99% online) Modality:

Method of Instruction	**Document typical activities or assignments for each method of instruction**
Video Conferencing	Video tools such as ConferZoom can be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Video Conferences will be used to facilitate SLOs and student-to-student group meetings will also be encouraged.
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100% online Modality:

Method of Instruction	**Document typical activities or assignments for each method of instruction**
Telephone	Students can request for instructor to call or vice versa in order to answer one-on-one questions about course material or student progress.
Video Conferencing	Video tools such as ConferZoom can be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Video Conferences will be used to facilitate SLOs and student-to-student group meetings will also be encouraged.
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Examinations

Hybrid (1%—50% online) Modality
Online
On campus

Hybrid (51%—99% online) Modality
Online
On campus

Primary Minimum Qualification
AUTOMOTIVE TECHNOLOGY

Review and Approval Dates

Department Chair
12/02/2020

Dean
12/02/2020

Technical Review
12/09/2020

Curriculum Committee
12/09/2020

CCCCO
MM/DD/YYYY

Control Number
CCC000611494

DOE/accreditation approval date
MM/DD/YYYY