AT R088: CALIFORNIA BUREAU OF AUTOMOTIVE REPAIR SMOG LICENSE UPDATE CLASS

Originator
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College
Oxnard College

Discipline (CB01A)
AT - Automotive Technology

Course Number (CB01B)
R088

Course Title (CB02)
California Bureau of Automotive Repair Smog License Update Class

Banner/Short Title
Smog License Update Class

Credit Type
Credit

Start Term
Summer 2021

Catalog Course Description
This short course will cover selected areas of automotive technology. This course will meet the smog license update training requirements of the State of California, Bureau of Automotive Repair.

Additional Catalog Notes
This class is repeatable if legally mandated.

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)
C (Not transferable)

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)
2 - Not 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
Student Option- Letter/Pass
Pass/No Pass Grading

Does this course require an instructional materials fee?
No

Repeatable for Credit
Yes
Number of times a student may enroll in this course
Unlimited

Specify the Title 5 justification for repeatability
Repetition is necessary to meet major requirements of a CSU/UC

Justification for Repeatability
Licensed Smog technicians are required to receive training through this course every 4 years. This course will vary content as needed by technicians. This is State required industry training and this course provides the correct hours and content/

Is this course part of a family?
No

Units and Hours

Carnegie Unit Override
No

In-Class

Lecture
Minimum Contact/In-Class Lecture Hours
13.25
Maximum Contact/In-Class Lecture Hours
13.25

Activity

Laboratory
Minimum Contact/In-Class Laboratory Hours
13.25
Maximum Contact/In-Class Laboratory Hours
13.25

Total in-Class

Total in-Class
Total Minimum Contact/In-Class Hours
26.50
Total Maximum Contact/In-Class Hours
26.50

Outside-of-Class

Internship/Cooperative Work Experience

Paid

Unpaid

Total Outside-of-Class

Total Outside-of-Class
Minimum Outside-of-Class Hours
26.5
Maximum Outside-of-Class Hours
26.5

Total Student Learning

Total Student Learning
Total Minimum Student Learning Hours
53.00
Total Maximum Student Learning Hours
53.00

Minimum Units (CB07)
1
Maximum Units (CB06)
1

Advisories on Recommended Preparation
This course is for persons holding a current State of California Smog Inspection Repair License and candidates for the Smog Inspection License, to prepare or to meet minimum 16 hour training requirements by the State of California Bureau of Auto Repair license department.

Limitations on Enrollment
Interview

Student Learning Outcomes (CSLOs)

	Upon satisfactory completion of the course, students will be able to:
1	Students will be able to identify simple graphing information and determine anomalies. Students will perform automotive component diagnosis and repair.
2	Students will demonstrate proper use and care of the BAR Dynamometer driven smog machine for vehicles before model year 2000.

3	Students will successfully pass online industry related safety exam. Access to SP2.org will be provided.
4	Students will identify specific laws concerning the emission system in the automotive industry.
5	Students will demonstrate proper use of BAR OIS smog machine for vehicles over the model year 2000.
6	Students will score 70% or better on the State of California Smog Check Procedures Update final exam.

Course Objectives

	Upon satisfactory completion of the course, students will be able to:
1	Pass the mandated State of California update test for Licensed Smog Inspectors.
2	Use the internet to access vehicle repair websites for common vehicle waveform examples.
3	Use a Digital Storage Oscilloscope to capture electrical/electronic waveforms for analysis.
4	Demonstrate proper use and care of current smog machines.
5	Demonstrate techniques necessary to repair emission failures.

Course Content

Lecture/Course Content

1. Use of the Digital Storage Oscilloscope
2. Plotting coordinates
3. Common sensor capture single trace
4. Common sensor capture multiple trace
5. Smog machine makes and models description
6. Diagnosis of common emission failures.
7. Diagnosis of common smog check test failures
8. Use and care of smog equipment
9. Calibration of testing equipment
10. Smog VIR diagnosis and diagnostic routines
11. Overview of new laws and regulations
12. Review of Smog check manual, new information added.
13. BAR Inspect and repair station requirements
14. BAR changes to password management, updates
15. Information system introduction, alldata,prodemand,IATN. Identifix and others will be reviewed.

Laboratory or Activity Content

Lab assignments involve practical experience working with vehicles in the auto shop for demonstration, testing, diagnosis, and repair methods of smog systems.

Activities will include:

1. Use of the digital storage oscilloscope in diagnosing systems
2. Evaluation, analysis, and manipulation of results of computer tests
3. Hands on practice of OIS
4. Hands on practice on Dynamometer
5. Emission system correction action
6. Testing fuel evaporation systems
7. Perform machine calibrations
8. Preform tests using lab vehicles and shop equipment

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):

Essays
Group projects

Individual projects
Laboratory activities
Oral presentations
Projects
Problem-Solving Assignments
Portfolios
Skills demonstrations
Skill tests

Instructional Methodology

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

Audio-visual presentations
Collaborative group work
Class activities
Case studies
Distance Education
Demonstrations
Field trips
Guest speakers
Laboratory activities
Small group activities

Describe specific examples of the methods the instructor will use:

1. Instructor will set up labs and vehicles according to the BAR short course approved or each class cohort. Short courses will determine methods and styles of training materials needed.
2. Students will determine root causes of emission control problems using hand held computer diagnostic equipment.
3. Students will receive training to use tools and equipment for emission system diagnosis. Industry experts may demonstrate and mentor students during the hands on practice.
4. Instructor will use case studies and labs set up to train students to analyze emission controls and their application on certain vehicles. This type of exercise will utilize web based training, group research, video lessons,
5. Students will be introduced and trained to use diagnostic flow charts and shop manuals to aid in diagnostic accuracy.
6. Guest speakers will be invited to enhance learning modality. First hand experience with Smog laws and regulations will explain monetary penalties associated with failure to follow rules.

Representative Course Assignments

Writing Assignments

1. Specific homework assignments from a textbook require written answers. Homework assignments will include evaluating waveforms of catalytic converter performance, evaporative control systems, and oxygen sensor heaters with the information found in Mode 6, which is data captured by the vehicle “on-board” computer.
2. Students will submit written repair orders describing the lab work and diagnostic procedure followed while repairing emissions systems.

Critical Thinking Assignments

1. Students will be given multiple case studies to study and determine course of action. Each case study will be verifiable and students may use shop equipment to test their theories.
2. Students will have several smog reports of vehicle failures, students must use the data to determine what equipment and tools will be needed for diagnosis of smog failures.
3. Assignments will be in the form of task sheets which follow a logical order of operation. Students will use these task sheets to perform repairs they determine are necessary through the process of following task sheet instructions for gathering information.

Reading Assignments

1. The short course materials will be in writing and students must read and follow directions listed in the handbooks. Short course materials are selected and vetted by the Bureau of Auto Repair, these courses change regularly and are the only approved course for this update class.
2. The written material is critical to students understanding of diagnostic routines. Students must read and comprehend written strategies presented in the course materials.
3. The BAR smog check procedures manual will be used extensively, students must read from this manual and locate diagnostic routines listed in the manual.

4. Students will operate a complex computer program, reading and following instructions, performing a smog check from start to finish.

Skills Demonstrations

1. Equipment used to perform a smog check will be utilized by students in hands on demonstrations.
2. Several different types of smog machines are part of the course. Hands on practice will be required.
3. Students must demonstrate proficiency using each machine during the course.

Other assignments (if applicable)

1. The California bureau of auto repair website will be used often for research.
2. Internet usage for assignments will be required.
3. Internet sites such as i (http://www.motorcraft.com)atn.com and autonerdz.com will be visited in the course.

Outside Assignments

Representative Outside Assignments

1. Students must locate the Smog check manual and research codes and possible violations smog technicians could be prosecuted for. Most students may use the internet but there are classroom sets of smog manuals available for students use. Knowledge of the smog check laws and regulations is critical to avoiding possible fines and penalties. This research will be done outside class time.
2. Students must complete a comprehensive online safety course outside class.17 modules and 18 quizzes will be completed.

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

Area F: Ethnic Studies

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
Other Resource Type

Description
Instructor supplied Power Point Note set..

Resource Type
Other Resource Type

Description
Instructor supplied PICO Scope Quick Start Guide.
Hard copies will be supplied for hands on lab practice.
Tablets and test components will be available on campus on lab days.

Resource Type
Other Instructional Materials

Description
A computer with internet access will be needed for this class and may be available depending on class size.

Resource Type
Textbook

Classic Textbook
No

Description
Each short course will require instructional materials related to the subject or system focused on in the description. These resources will change for each short course and may be supplied.

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	Email communication is available at any time. Announcements and messages will be used regularly to update and clarify assignments.

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. office hours
Other DE (e.g., recorded lectures)	Faculty may use a variety of tools and media along with the learning management system to insure ADA compliance. Not limited to but inclusive of a broad range of options online and on campus, such as library resources, websites and multimedia suppliers.
Synchronous Dialog (e.g., online chat)	Instructor will 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.

Hybrid (51%–99% 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	Email communication is available at any time. Announcements and messages will be used regularly to update and clarify assignments.
Face to Face (by student request; cannot be required)	Sudents 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. office hours
Other DE (e.g., recorded lectures)	Faculty may use a variety of tools and media along with the learning management system to insure ADA compliance. Not limited to but inclusive of a broad range of options online and on campus, such as library resources, websites and multimedia suppliers.
Synchronous Dialog (e.g., online chat)	online chat, live lectures, office hours (via video conferencing).
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. lectures, office hours

100% 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.
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
Synchronous Dialog (e.g., online chat)	Instructor will 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. lectures, office hours

Examinations

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

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

Primary Minimum Qualification
AUTOMOTIVE TECHNOLOGY

Additional local certifications required
ASE Certification in Automotive Electrical, Engine Performance, and Advanced Engine Performance.
Smog Instructor License and Smog Technician License

Review and Approval Dates

Department Chair
11/25/2020

Dean
11/25/2020

Technical Review
11/25/2020

Curriculum Committee
11/25/2020

DTRW-I
MM/DD/YYYY

Curriculum Committee
12/09/2020

Board
MM/DD/YYYY

CCCCO
MM/DD/YYYY

Control Number
CCC000512994

DOE/accreditation approval date
MM/DD/YYYY