



AUTO 264: EMISSIONS & DIAGNOSTICS LVL 2

Proposer:**Name:**

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Effective Term:

Spring 2021

Credit Status:

Credit - Degree Applicable

Subject:

AUTO - Automotive Technology

Course Number:

264

Catalog Title

Emissions and Diagnostics Level 2

Catalog Description

This is a certification course designed to prepare students to take the Bureau of Automotive Repair Smog Check Technician licensing examination. It will cover the BAR 97 Transition Training, Advanced Emissions Diagnostics Training and the Enhanced Area Inspection and Testing procedure training.

Advisory on Recommended Preparation:

AUTO 243 or equivalent college course with a minimum grade of C or equivalent skills as determined by departmental assessment

Method of Instruction:

Laboratory

Lecture and/or Discussion

Distance Education (Emergency Addendum)

Course Units/Hours:**Course Units Minimum:**

2

Lecture Hours Minimum (week)

1.5

Lab Hours Minimum (week)

1.5

Total Contact Hours Minimum (semester)

52.5

Total Outside Hours Minimum (semester)

52.5

Total Student Learning Minimum Hours (semester)

105

Repeatability:

No

Open Entry/Exit:

No

Field Trips:

Not Required

Grade Mode:

Standard Letter

TOP Code:

094800 - * Automotive Technology

SAM Code:

B - Advanced Occupational

Course Content

Methods of Assessment:

Multiple choice tests
Problem solving assignments or activities
Short answer quizzes or exams
Skill demonstrations

Course Topics:

	Course Topics
1	Personal, shop, equipment and vehicle safety
2	Performing an enhanced emissions test
3	Performing an emissions functional test
4	Performing an emissions visual inspection
5	Calibration of emissions test unit
6	Laws, regulations, and procedures governing emissions testing

Course Objectives:

	Course Objectives
1	Demonstrate the ability to perform an emissions visual inspection of a vehicle.
2	Demonstrate the ability to perform an enhanced emission test on various vehicle designs.
3	Demonstrate the ability to perform an emissions functional test on various vehicle designs.

Course Outcomes:

	Course Outcomes
1	Students will be able to correctly run a full Enhanced Smog Check Test and Inspection.
2	Students will be able to correctly set up a BAR 97 infrared analyzer for testing vehicle emissions.
3	Students will be able to correctly set up a lab scope and test the engine's electronic control systems.
4	Students will be able to correctly set up and operate a vehicle scan tool and record the data stream.
5	Students will be able to diagnose and repair hydrocarbon and carbon monoxide emissions failures.
6	Students will be able to diagnose and repair oxides of nitrogen emissions failures.
7	Students will be able to inspect vehicles according to the Enhanced Smog Check Program.
8	Students will be able to prepare written documentation and justification for repairs.
9	Students will be able to Properly test vehicle emission systems using a dynamometer.
10	Students will be able to repeat this class to be updated on all the new laws and regulations and the latest changes to the Smog Check Program that effect testing methods and procedures.

Assignments:

Assignment Type:	Details
Reading	Students shall read and understand material located in the Bureau's "Write-it-Right" Training Manual. Students shall read and understand the Bureau of Automotive Repair's Inspection Procedures Manual and the Reference Manual. Students shall read and understand the "BAR 97 Transition Training Manual".
Writing	Students shall write answers to questions generated by the Bureau of Automotive Repair's "Write-it-Right" Training Manual and submit for grading by the instructor. Students will supply answers in written form to questions generated by the instructor and turn them in for grading. Students shall answer the questions in the Training Manual and turn in for grading.
Homework	Students shall study the "Write-it-Right" Training Manual and answers to questions submitted in writing to prepare for the State of California, Bureau of Automotive Repair, Emissions test. Students will use the writing assignments as homework.
Lab	Functional testing of emission control equipment on working models Completing an actual training smog check on a working model (including data entry on Bar 97 smog machine, visual inspections and function tests) Diagnosis of computer systems and failed emission test

Textbooks or other support materials

Resource Type:	Details
Books	Smog Check Manual State of California, Bureau of Automotive Repair Bureau of Automotive Repair 2017
Books	Smog Check Reference Guide State of California, Bureau of Automotive Repair Bureau of Automotive Repair 2019
Web/Other	Multiple publications and multimedia resources found at https://bar.ca.gov/Industry/Training/

Other Degree Attributes

Degree Applicable
Not a Basic Skills Course

Additional Attachment

AUTO-DLA.pdf

Banner Title:

Emissions & Diagnostics Lvl 2

Curriculum Committee Approval Date:

10/21/2020

Academic Senate Approval Date:

10/28/2020

District Governing Board Approval Date:

11/09/2020

Course Control Number:

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