

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

Automotive Technology 285L – Level II Inspector Training Emission Control License Laboratory

3 hours laboratory, 1 unit

Catalog Description

This laboratory course is designed for students with vast engine performance experience and knowledge to perform complete smog inspections on various vehicles and designs. This course is the laboratory practice opportunity for students taking courses AUTO 285 Level II Inspector Training lecture, AUTO 285T Level II Inspector Training Assessment Test Out, and/or for students taking a Work Experience course at a Smog Inspection Station who need additional instruction and practice completing required ASE competencies and tasks required to properly perform inspections.

Prerequisite

None

Course Content

- 1) Lecture
 - a. Introduction to safety and best practices regarding vehicle safety and vehicle pollutants
 - b. Introduction to consumer law as prescribed in “Laws and Regulations” of “Repair Dealers” and Technicians
 - c. Authorization of repairs and services using consumer law “Write it Right”
 - d. How to perform various inspections using various test equipment as prescribed by B.A.R.
- 2) Online Learning Modules
 - a. Students will complete a series of online learning modules.
- 3) Demonstrations
 - a. Perform functional tests of various emission control systems using test equipment.
 - b. Identify missing, modified, or disconnected emission control devices and systems.
 - c. Identify incorrect engine application and engine changes.
 - d. Perform exhaust gas recirculation tests.
 - e. Perform functional timing tests.
 - f. Use the On Board Diagnostic system to describe monitors that are complete and incomplete.
 - g. Calibrate equipment used for performing tests and inspections

Course Objectives

Students will be able to:

- 1) Describe and demonstrate personal, shop, equipment, and vehicle safety practices.
- 2) Demonstrate and apply laws, regulations, and procedures associated with consumer authorization of inspections and the overall administration of a Smog Check Program.
- 3) Demonstrate the standards and practices of Smog Check Inspectors.
- 4) Demonstrate the ability to calibrate an emission inspection system.
- 5) Demonstrate knowledge, skills, and abilities in performing emission system tests on various vehicle designs.

Method of Evaluation

A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in the subject matter determined by multiple measurements for evaluation, one of which must be essay exams, skills demonstration, or, where appropriate, the symbol system.

- 1) Quizzes, written exams, and hands-on performance exams measuring student abilities to safely identify necessary actions or needed repairs, and demonstrate knowledge of consumer rights and responsibilities.
- 2) Practical lab exercises that measure student progress toward mastering tasks related to testing and identifying emission related systems and components.
- 3) Skills based summative assessment that measures student ability to successfully complete the necessary tasks related to testing of emission systems and components.

Special Materials Required of Student

- 1) Access to high speed internet connection and personal computer or access to a personal computer to complete web based training assignments. Since this course is taught as a distance education course, computer experience is necessary.
- 2) Email address
- 3) Safety glasses and protective safe work clothing
- 4) Smart device, computer or tablet with large screen capability, microphone and camera

Minimal Instructional Facilities

- 1) Smart Classroom
- 2) Required training materials
- 3) College learning management system
- 4) Laboratory with training vehicles
- 5) Vehicle Data Acquisition Devices (D.A.D.) and other equipment prescribed by B.A.R.

Method of Instruction

- 1) Lecture and demonstration of systems related to student learning outcomes
- 2) Individual assistance during laboratory assignments and web-based tutoring using distance learning tools
- 3) Online learning modules with formative learning exercises
- 4) Open laboratories where students perform objective tests and laboratory assignments

Out of Class Assignments

- 1) **Reading:** assigned course materials, manuals, content on websites, and more.
- 2) **Written:** assignments where students describe the required tasks related to identifying, testing, and needed repairs of emission systems and components, and more.
- 3) **Other:** web-based training modules (pass online pretests prior to laboratory "Test Out"), portfolio performance projects related to identifying, testing, and needed repairs of emission systems and components, and more.

Texts and References

- 1) Required (representative examples):
 - a. Student workbooks – will be provided electronically.
 - b. Required: VanGelder, Kirk. Fundamentals of Automotive Technology. Jones and Bartlett Learning, 2023.
 - c. Web Based Training Modules will be provided electronically.
 - d. Workshop Manuals will be provided electronically.
- 2) Supplemental: None

Student Learning Outcomes

Upon successful completion of this course, students will be able to:

- 1) Accurately demonstrate the compliance and test procedures of various emission components and systems.
- 2) Identify emission systems and demonstrate knowledge of compliance by navigating multiple sources of industry standard manuals, special service messages, technical service bulletins, and BAR publications and websites for vehicle inspections.
- 3) Communicate effectively and professionally in a diverse setting that includes prospective colleagues, clients, and supervisors.
- 4) Comply with environmental health and safety regulations at the state and federal levels.