AUTO 340D: CNG DIAGNOSIS WITH SCAN TOOL

Originator

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Co-Contributor(s)

Name(s)
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Justification / Rationale

The Automotive Faculty are reviewing and/or updating this course to assure compliance with local, State, and Federal regulations; support consistency within the curriculum; practice relevance regarding automotive industry and community; and to make improvements that will strengthen the learning environment this course creates thus benefiting the learners.

Effective Term

Fall 2022

Credit Status

Noncredit

Subject

AUTO - Automotive Technology

Course Number

340D

Full Course Title

CNG Diagnosis with Scan Tool

Short Title

CNG DIAG W/SCAN TOOL

Discipline

Disciplines List
Automotive Technology

Modality

Face-to-Face
100% Online
Hybrid

Catalog Description

This course provides classroom lecture/discussion and interactive training on compressed natural gas (CNG) vehicle diagnosis utilizing current scan tool diagnostics. The course is designed to introduce the service technician to intermediate and advanced scan tool diagnosis.

Schedule Description

This course provides classroom lecture/discussion and interactive training on CNG vehicle diagnosis using the current scan tool.
Prerequisite: AUTO 340

Non-credit Hours

36

Lecture Units

0

Lab Units

0

In-class Hours
18

Out-of-class Hours
18

Total Course Units
0

Total Semester Hours
36

Override Description
Noncredit courses do not have lecture and lab. The out of class hours were adjusted to provide the same total as the equivalent credit course.

Prerequisite Course(s)
AUTO 340

Required Text and Other Instructional Materials

Resource Type
Web/Other

Description
Manufacturer scan too material.

Resource Type
Web/Other

Description
Handouts provided by the instructor

Class Size Maximum
21

Entrance Skills
Students should be able to: Describe component overview and operation. Comply with shop and vehicle safety practices relevant to compressed natural gas (CNG) vehicles. List shop and vehicle safety practices relevant to compressed natural gas (CNG) vehicles. Describe CNG components and describe their operation.

Requisite Course Objectives
AUTO 340-Basic CNG component overview and operation.
AUTO 340-Comply with shop and vehicle safety practices relevant to compressed natural gas (CNG) vehicles.
AUTO 340-Upon successful completion of this course, students will be able to: List shop and vehicle safety practices relevant to compressed natural gas (CNG) vehicles.
AUTO 340-Upon successful completion of this course, students will be able to: describe CNG components and describe their operation.

Course Content
1. Review of CNG vehicle safety.
2. Diagnose, troubleshoot using current CNG system scan tool.

Course Objectives

	Objectives
Objective 1	Interpret and verify complaints; determine logical diagnostic steps.
Objective 2	Comply with shop and CNG vehicle safety practices.
Objective 3	Perform diagnostic procedures on CNG vehicles with on-board computer/electronic scan tool system support.

Student Learning Outcomes

	Upon satisfactory completion of this course, students will be able to:
Outcome 1	Perform actuation tests on CNG vehicle using a scan tool.
Outcome 2	Demonstrate proper diagnosis and repair of a Check Engine light malfunction on a CNG vehicle using a scan tool.

Methods of Instruction

Method	Please provide a description or examples of how each instructional method will be used in this course.
Collaborative/Team	Learner will work in a team setting while performing ASE tasks, researching information and group-based activities.
Technology-based instruction	Diagnostic equipment-based activities.
Observation	Learner will be observed in lab, group activities, information research, collaborative assignments, and other activities assigned.
Lecture	Each class is half lecture covering multiple aspects of course content.
Discussion	Learner will participate in classroom discussions.
Demonstration, Repetition/Practice	Each learner will demonstrate their ability to correctly perform a given task not limited to laboratory assignments, research projects, interactive role-play and group activities.

Methods of Evaluation

Method	Please provide a description or examples of how each evaluation method will be used in this course.	Type of Assignment
Written homework	Readings from provided material. Homework to include multiple-choice questions, fill in the blank and essay questions to be graded each week.	In Class Only
Self-paced testing	Participate in role play activities and be required to do a visual presentation.	In Class Only
Student participation/contribution	Lab activities and student may participate in role play activities.	In Class Only
Group activity participation/observation	Learner will be observed activities in lab, group activities, information research, collaborative assignments, and other activities assigned.	In and Out of Class
Laboratory projects	Participate in lab based activities to complete their ASE standards job sheets.	In Class Only
Other	Out-of-class hours will be accounted for electronically through the learning management system.	Out of Class Only

Assignments

Other In-class Assignments

1. Lecture notes.
2. Problem solving participation and discussion.
3. Interactive activities.

Other Out-of-class Assignments

1. Readings from materials provided.
2. Homework materials provided multiple-choice questions, fill in the blank and essay questions to be graded each week.
3. Assigned readings and written summaries from selected instructor handouts.

4. Written summaries and analysis of assigned websites.
5. Vehicle diagnosis, troubleshooting and repair of personal, shop and other vehicles to be evaluated by the instructor during lab time.
6. Must develop teamwork skills through lab activities and assigned special projects.

Grade Methods
Pass/No Pass Only

Distance Education Checklist

Include the percentage of online and on-campus instruction you anticipate.

Online %
100

Instructional Materials and Resources

Effective Student/Faculty Contact

Which of the following methods of regular, timely, and effective student/faculty contact will be used in this course?

Within Course Management System:
Discussion forums with substantive instructor participation
Online quizzes and examinations
Regular virtual office hours
Timely feedback and return of student work as specified in the syllabus
Weekly announcements

External to Course Management System:
Direct e-mail
Synchronous audio/video

Briefly discuss how the selected strategies above will be used to maintain Regular Effective Contact in the course.
The course will be synchronous, with discussion boards, announcements and office hours.

Other Information

MIS Course Data

CIP Code
47.0614 - Alternative Fuel Vehicle Technology/Technician.

TOP Code
094840 - Alternative Fuels and Advanced Transportation Technology

SAM Code
C - Clearly Occupational

Basic Skills Status
Not Basic Skills

Prior College Level
Not applicable

Cooperative Work Experience
Not a Coop Course

Course Classification Status
Other Non-credit Enhanced Funding

Approved Special Class
Not special class

Noncredit Category
Short-Term Vocational

Funding Agency Category
Not Applicable

Program Status
Program Applicable

Transfer Status
Not transferable

General Education Status
Y = Not applicable

Support Course Status
N = Course is not a support course

Allow Audit
No

Repeatability
Yes

Repeatability Limit
NC

Repeat Type
Noncredit

Justification
Noncredit courses are repeatable until students are comfortable they have achieved the skills and knowledge to meet the outcomes and objectives of the course.

Materials Fee
No

Additional Fees?
No

Approvals

Curriculum Committee Approval Date
05/03/2022

Academic Senate Approval Date
05/12/2022

Board of Trustees Approval Date
5/20/2022

Chancellor's Office Approval Date
05/23/2022

Course Control Number
CCC000611539

Programs referencing this course
Compressed Natural Gas Essentials Certificate of Completion (http://catalog.collegeofthedesert.eduundefined/?key=278)
CNG Essentials Certificate of Completion (http://catalog.collegeofthedesert.eduundefined/?key=361)