AUTO 340D: CNG DIAGNOSIS WITH SCAN TOOL

New Course Proposal

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Originator

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Justification / Rationale

CNG (Compressed Natural Gas) is an advanced topic in Alternate Fuels. Training is aimed at, and appropriate for, auto technicians already working in the field. Many have already completed certificates and degrees. Offering a non-credit option is appropriate for this audience.

Effective Term

Fall 2020

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

Catalog Description

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

Non-credit Hours

36

Lecture Units

0

Lab Units

0

Lab Semester Hours
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	Diagnose and repair 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	Student will work in a team setting while performing NATEF tasks, researching information and group-based activities.
Technology-based instruction	Diagnostic equipment-based activities.
Observation	Student 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	Student will participate in classroom discussions.
Demonstration, Repetition/Practice	Each student 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,Student preparation	Student may 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	Student will be observed activities in lab, group activities, information research, collaborative assignments, and other activities assigned.	In and Out of Class
Laboratory projects	Student will participate in lab based activities to complete their NATEF 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. Hands on 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

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

Allow Audit
Yes

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
10/17/2019

Academic Senate Approval Date
10/24/2019

Board of Trustees Approval Date
11/13/2019

Chancellor's Office Approval Date
01/10/2020

Course Control Number
CCC000611539

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