

AUTO 349: CNG FUEL SYSTEM INSPECTION

Originator

dredman

Co-Contributor(s)**Name(s)**

Anderson, Dorothy

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

349

Full Course Title

CNG Fuel System Inspection

Short Title

CNG FUEL SYS INSP

Discipline**Disciplines List**

Automotive Technology

Modality

Face-to-Face

Hybrid

Catalog Description

This course helps to prepare technicians for the (CNG) Fuel System Inspection Certification Exam. It covers safety, fundamental operation and the information related to the installation and conversion regulations of CNG vehicles.

Schedule Description

This class is focused on preparation for the compressed natural gas (CNG) Fuel System Inspection Certification. It is most helpful for those with CNG experience. Advisory: AUTO 340

Non-credit Hours

24

Lecture Units

0

Lab Units

0

In-class Hours

18

Out-of-class Hours

6

Total Course Units

0

Total Semester Hours

24

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)

Advisory: AUTO 340

Required Text and Other Instructional Materials**Resource Type**

Web/Other

Description

Handouts provided by the instructor

Resource Type

Web/Other

Description

NFPA 52 Vehicular Fuel Systems Code, 2019 Edition

Class Size Maximum

15

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-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. Compressed natural gas (CNG) safety.
2. CNG component function and operation.
3. National Fire Protection Agency (NFPA) 52 rules and regulations.
4. Compressed Gas Association (CGA) 6.4 CNG Fuel System Inspection procedures.

Course Objectives

	Objectives
Objective 1	Describe CNG safety procedures.
Objective 2	Identify basic vehicle CNG system operation component function.
Objective 3	List the steps in performing a CNG vehicle Fuel System Inspection.

Student Learning Outcomes

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

Outcome 1 Model a proper CNG Fuel System Inspection on a vehicle, including documentation.

Methods of Instruction

Method	Please provide a description or examples of how each instructional method will be used in this course.
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.
Technology-based instruction	Diagnostic equipment based activities.
Lecture	Each class is half lecture covering multiple aspects of course content.
Discussion	Participate in classroom discussions.
Observation	Learners will be observed in activities in lab, group activities, information research collaborative assignments, and other activities assigned.
Collaborative/Team	Work in a team setting while performing ASE tasks, researching information and group based 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 material provided. Is. Homework from material provided; multiple-choice questions, fill in the blank and essay questions to be graded each week.	In Class Only
Student participation/contribution	Learners will participate in lab and role-play activities.	In Class Only
Mid-term and final evaluations	Used to evaluate learners' knowledge and understanding of the information presented. Examples of these are not limited to quizzes, exams, presentations, research or projects.	In and Out of Class
Laboratory projects	Student will participate in lab based activities to complete their ASE standards job sheets.	In and Out of Class
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 from handouts and NFPA 52 classroom books.
2. Worksheets and quizzes.
3. Written summaries and analysis of assigned websites.
4. Inspection scenarios discussed and group evaluation.
5. Step-by-step discussion completion of CNG Fuel System Inspection including state and federal regulations and safety.

Other Out-of-class Assignments

1. Research using online service information and OEM information.
2. Coursework from provided materials: 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. Must study a complete fuel system inspection.
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

Provide any other relevant information that will help the Curriculum Committee assess the viability of offering this course in an online or hybrid modality.

The lab hours will be during the face-to-face portion of the course.

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 required to meet the objectives and outcomes of the course.

Materials Fee

No

Additional Fees?

No

Files Uploaded

Attach relevant documents (example: Advisory Committee or Department Minutes)

AUTO 349 CO Approval Ltr_2019_1222.pdf

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

5/23/2022

Course Control Number

CCC000611542

Programs referencing this course

Compressed Natural Gas Inspection Certificate of Completion (<http://catalog.collegeofthedesert.eduundefined/?key=304>)
CNG Inspection Certificate of Completion (<http://catalog.collegeofthedesert.eduundefined/?key=362>)

