

AUTO 349: CNG FUEL SYSTEM INSPECTION

New Course Proposal

Date Submitted: Sun, 08 Sep 2019 19:37:44 GMT

Originator

zbecker

Co-Contributor(s)

Name(s)

Redman, Douglas

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

349

Full Course Title

CNG Fuel System Inspection

Short Title

CNG FUEL SYS INSP

Discipline

Disciplines List

Automotive Technology

Modality

Face-to-Face

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

Lab Semester Hours

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	Understand 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	Successfully complete a 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 student 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	Student will participate in classroom discussions.
Observation	Student will be observed in activities in lab, group activities, information research collaborative assignments, and other activities assigned.
Collaborative/Team	Student will work in a team setting while performing NATEF 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	Lab activities and student may participate in role play activities.	In Class Only
Mid-term and final evaluations	Used to evaluate student's knowledge and understanding of the information presented. Examples of these are not limited to quizzes, exams, presentations, research or projects.	In Class Only
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 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

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

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

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

CCC000611542