Training - Hydrogen for mobility

H2SPOC-EN-D

Distance only

12 hours

12 hours over 3 weeks

This course gives an overview to the participants about H2 context, and about the technical (functional & organic) H2 solutions for mobility

Level

Knowledge

Public

Engineers, managers and technicians who are familiar with the operating fundamentals of Powertrains

Objectives

Attendees will be able to implement the following skills:

- Understand the general context of hydrogen economy and hydrogen as a fuel for mobility
- Compare and analyse the advantages and drawbacks of a fuel cell vehicle, a hydrogen combustion vehicle, and an electric vehicle
- Identify and understand the evolution of H2 combustion engines and Fuel cells

Pedagogical & technical resources

Teaching aids:

- Videos, surveys, evaluations..
- Interactive approach
- Pedagogical activities to validate knowledge acquisition

Technical means:

- Provision of resources and tools for remote support: training platform (LMS)
- Computer resources required: a minimum bandwidth of 1.5 Mbps for a video quality in 720P. For Zoom you can consult the technical requirements by clicking on the link: https://support.zoom.us/hc/en-us/articles/201362023-System-Requirements-for-PC-Mac-and-Linux. For Teams you can consult the requirements by clicking on the link: https://docs.microsoft.com/fr-fr/microsoftteams/hardware-requirements-for-the-teams-app
- Technical support is provided by our training platform management team
- Our trainers provide pedagogical assistance in synchronous mode during the virtual classes. Participants' questions can also be formulated on the training platform and will be answered during the virtual classes

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

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Responsable

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

HYDROGEN FOR MOBILITY CONTEXT AND PRODUCTION

Hydrogen tomorrow – Interview;
Hydrogen production.
Hydrogen mobility context.
E-fuels.
Webinar Q&A.

HYDROGEN INTERNAL COMBUSTION ENGINE

Chemical characteristics of hydrogen that influence the mixing process, ignition and combustion.
Impact of hydrogen chemistry on engine performance (efficiency, pollutants, power, torque and noise).
Engine technologies and technological developments necessary for hydrogen combustion (injection, intake, combustion, after treatment).
Advantages and disadvantages of hydrogen combustion.
Webinar Q&A.

FUEL CELL VEHICLES

Fuel cells architecture.
Fuel cells introduction.
Fuel cell electrochemistry.
Fuel cells system.
Fuel cells powertain management.
Fuel cells safety.
Fuel cells conclusion.
Webinar Q&A.

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