Hydrogen Industry Masterclass

Course Code: PDC208

COURSE OBJECTIVES

Upon completion of this course, participants will be able to:

- Know where the opportunity for hydrogen sits within the wider Asia-Pacific and global process and energy industries space
- Gain in-depth knowledge of hydrogen production, storage and transmission, and fuel cell technologies
- Understand how to produce hydrogen and the purity/composition required for different applications
- Learn the end uses for hydrogen: export, transport, power and industrial
- Know how to apply chemical engineering principles to the design of hydrogen unit operations and processes
- Understand the skills and where to acquire further skills for an engineer to work in the hydrogen industry.

MAIN CONTENTS

- Introduction and safety including current and projected hydrogen demands and trends
- Fuel cell basics
- PEM and other hydrogen fuel cells
- Generation of green hydrogen and storage, including purity requirements for different hydrogen applications
- Other methods of hydrogen production focusing on hydrogen from natural gas
- Hydrogen liquefaction, compression, storage and transport including liquid hydrogen, ammonia, organic liquid hydrogen carriers and solid-state methods
- System design for applications such as filling stations or export facilities, modelling and analysis including example exercises in heat and mass balances
- End uses for hydrogen covering certification, guarantee of origin schemes, system packaging, use in CHP, industrial use, ammonia/fertilizer production, green steel and other metals processing, heating and as transport fuel
- Example exercise in risk assessment/mini-HAZOP
- Safety aspects of hydrogen and issues of safety in design for process development
- Economic analysis, project development and industry status
- Exercise on levelized cost of hydrogen production

METHODOLOGY

Lecture and group discussions

TARGET AUDIENCE

Electrical/Chemical/Mechanical engineers and technicians who are interested to learn about hydrogen

COURSE DETAILS

Duration	:	14 hours
Mode of Delivery	:	Face-to-Face
Certification	:	SIPG Certificate of Completion
PDU by PE Board	:	Pending
Additional Requirement/s	:	Not applicable

COURSE FEES

Full Course Fee	:	S$2,200 (before GST)
For Singapore Citizens/PR/LTVP+*	:	S$660 (before GST)
For Singapore Citizens (40 years old and above)	:	S$220 (before GST)

ADDITIONAL REMARKS

- Trainee must attain at least 75% attendance rate and pass the assessment to receive Certificate of Completion and funding grant (if applicable).
- Subsidy of up to 70% is applicable for Singapore Citizens, Permanent Residents or Long-Term Visitor Pass Plus (LTVP+) Holders, subject to funding agency's approval.
- Enhanced subsidy of up to 90% is applicable for Singapore Citizens aged 40 years and above, subject to funding agency's approval. Note that GST payable will be computed from fee after 70% funding.
- Professional Development Unit (PDU) is applicable for Professional Engineers registered under the Professional Engineers (PE) Board only.
- All published fees are subject to prevailing GST.

CONTACT US

For more information, please contact SIPG at +65 6916 7930 or email training-institute@spgroup.com.sg.

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