

University Certificate in Hydrogen Applications and Technologies

February 2024

Responsible académique: Professor Patrick Hendrick & Professor Marie-Paule Delplancke

Campus ULB-Solbosch

Friday PM 13h-17h

Title	DAY	DATE with classes PM 13h-17h	ULB teacher / host	Topic	Tentative guest speakers
MODULE 1 INTRODUCTION Marie-Paule DELPLANCKE 0,5 ECTS	1	09-02-24	Marie-Paule Delplancke	Introduction to the hydrogen certificate program European hydrogen landscape Hydrogen in a global and environmental context Hydrogen Economy perspectives, advantages and drawbacks	<i>teaching team invited</i> <i>Clean hydrogen partnership</i> <i>IEA and World H2</i> <i>Ioana-Ancuta IANCU</i>
	MODULE 2 Hydrogen Technologies for production, transport, compression, storage and usage of H2 Jean-Luc DELPLANCKE 4,5 ECTS	2	23-02-24	Jean-Luc Delplancke	Production solutions with electrolysis (vs. cracking) Production: case study Emerging H2 production technologies
3		15-03-24	Patrick Hendrick Bilal Outirba	Hydrogen transport, compression, storage and distribution Hydrogen storage, transport and distribution: a case study Hydrogen transport & distribution	<i>Colruyt/Virya</i>
4		22-03-24	Patrick Hendrick Bilal Outirba	Hydrogen transport & usage Hydrogen transport & usage: case study Hydrogen transport & distribution	<i>Fluvis</i>
5		29-03-24	Jean-Luc Delplancke	Technologies of Fuel Cells Production: case study	<i>Cummins</i>
6		19-04-24	Alessandro Parente / Axel Coussement Pierre Henneaux	Role of hydrogen in the decarbonization: introduction Role of hydrogen in the decarbonization - power production systems	
MODULE 3 APPLICATIONS Alessandro PARENTE 3 ECTS	7	26-04-24	Pierre Henneaux	Role of hydrogen in the decarbonization of power production systems Roadmap to net zero: case study	<i>Elia</i>
	8	17-05-24	Patrick Hendrick / Axel Coussement Patrick Hendrick	Role of hydrogen in the decarbonization of mobility Mobility: case study	<i>Van Hool</i>
	9	24-05-24	Patrick Hendrick / Axel Coussement Patrick Hendrick	Role of hydrogen in the decarbonization of mobility Mobility: case study Aircraft: case study	<i>Toyota</i> <i>Safran</i>
	10	31-05-24	Patrick Hendrick / Axel Coussement	Role of hydrogen in the decarbonization of the residential sector (districts and households) Hydrogen storage: case study	<i>Sibelga</i>
	11	07-06-24	Alessandro Parente	Role of hydrogen in the decarbonization of the heavy industry Hydrogen use in the heavy industry: case study	<i>ICEDD</i>
	12	14-06-24	Axel Coussement	Role of hydrogen in the decarbonization of the heavy industry Hydrogen use in the heavy industry: case study	<i>AGC</i>
	EVALUATION UE 1	13	21th or 28th of June 2024	Marie-Paule Delplancke Alessandro Parente Axel Coussement Julien Blondeau Patrick Hendrick	
MODULE 4 LABS AND TECHNICAL VISITS Marie-Mo VAEYENS 1 ECTS	14	a Friday, summer/fall 2024	Julien Blondeau	Visit Cummins (Olen) & Opnieuw & Co	
	15	a Friday, summer/fall 2024	Julien Blondeau	Visit Sibelga & ULB labs & showcase cars and/or Laborelec	
	16	a Friday, summer/fall 2024	Julien Blondeau	Visit STIB, station fixe + station portable	
MODULE 5 HYDROGEN SAFETY & LEGISLATION & PERMITTING Patrick HENDRICK 1 ECTS	17	06-09-24	Patrick Hendrick	European and Belgian H2 Safety legislation summary Legal aspects implemented into H2 safety	<i>Waterstofnet</i>
	18	13-09-24	Patrick Hendrick	H2 Permitting in Belgium Global view on H2 safety and implementation rules	<i>Ulster university</i>
MODULE 1 FINAL SESSION Marie-Paule DELPLANCKE 0,5 ECTS	19	20-09-24	Marie-Paule Delplancke	H2 for Belgium economy H2 Societal Acceptance H2 Business and Development Final Q&A session	<i>Energysville</i> <i>Hydrogen Europe Research</i> <i>Ioana-Ancuta IANCU</i>
EVALUATION UE 2	20	3 Fridays in November/ December 2024	Marie-Paule Delplancke Alessandro Parente Axel Coussement Julien Blondeau Patrick Hendrick		
PROJECT DEFENSES	21				
PROJECT DEFENSES	22				