

# Materials Chemistry for Environmental Applications

## 7.5 Higher Education Credits

### Schedule Fall 2023 (October)

Course	Date	Room	Type	Teacher	Contents
L1	28/9 09:15-12:00	C516	Lecture	AM/ZH	Introduction Pollution remediation and related circularity concepts (process efficiency, recyclability, recovery of valuable chemicals, end-of-use)
L2	29/9 09:15-12:00	C516	Lecture	AM	Introduction to adsorption-driven processes, associated materials and characterisation, Adsorption processes for water purification, air treatment and gas separation
L3	02/10 09:15- 12:00	C 516	Lecture	ZH	Porous materials used in water treatment processes
Ex1	03/10@09:00	C 516	Class work	AM/HK/MR/ZH	Introduction to seminar topics
Ex2	03/10@10:30	C 516	Class work	AM/HK/MR/ZH	Introduction to project work
Ex3	03/10@ 13:00	C 516	Class work	SW	Introduction to LCA project
L4	04/10 09:15-12:00	C 516	Lecture	ZH	Nanoporous materials (adsorbents) for air treatment and gas separation
L5	05/10 09:15-12:00	C 516	Lecture	AM	Introduction to membrane processes, associated materials and characterisation, Membrane materials for water and air purification
L6	06/10 09:15-12	C 516	Lecture	AM	Biobased materials and hybrids for water treatment
L7	09/10 09:15- 12:00	C 516	Lecture	AM	Photocatalytic processes and materials for water purification
L8	09/10 13:15- 16:00	C 516	Lecture	ZH ( <i>online</i> )	CO <sub>2</sub> capture and storage (CCS), CO <sub>2</sub> as a base chemical, CO <sub>2</sub> capture and utilization (CCU)
P1	12/10 09:15 onwards	C 516	Seminar	AM	(Group 1, 2, 3...)
	11/10 Industry visit (Camfill)				
	3/10- 20/10 Project work				
Ex4	18/10 09:15-12:00	C516	Class Work	AM/ SW	LCA Implementation ( <i>moderated discussion</i> )
P2	20/10 09:15 onwards	C516	Project Presentation	AM/ ZH/ HK/ MX	(Group 1, 2,3...)
	27/10	C516	Written Examination <b>HK/MR</b>		
	03/11		Final report submission		

AM- Aji Mathew, ZH- Zhehao Huang, SW- Siri Willskytt (IVL), HK\_ Houssine Khalili, MR Maria-Ximena Ruiz - Caldas