2025 Fall Semester 永續奈米化學特論

Special Topics in Sustainable Nano-chemistry course syllabus

Course descriptions and objectives: Thursday 09:10~12:00 I In this course, introductions and discussions about sustainable nanochemistry will be performed based on the viewpoints of inorganic and physical chemistry. Apart from a quick review of basic skills, some unique technologies will be introduced instead by experts. Students who want to take this course are strongly suggested to have basic knowledge of general chemistry, and crystallography. Teaching Materials Handouts and research literatures will be used. Referred Textbooks "Sustainability Science and Technology: An Introduction" by Alejandro De Las Heras, CRC "Nanoscale Materials in Chemistry" 2nd edition by Kenneth J. Klabunde and Ryan M. Richards, Wiley, 2009 "Nanoscale Science and Technology" by Robert W. Kelsall, Ian W. Hamley and Mark	Course name:			Dept. of course	永續化學博	
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	"Nanoscale So	cience and	Technology"	by Robert W. k	Celsall, Ian W. Hamley	and Mark
"Electronic Properties of Materials" 4th edition by Rolf E. Hummel, Springer, 2011.	Geoghegan, W	iley, 2005.				
	"Electronic Pro	operties of	Materials"	4th edition by Ro	olf E. Hummel, Spring	er, 2011.
	Syllabus					

Week	Date	Course Progress, Contents, Topics	Lecturers	
1 2025-09-04(四)		Introduction to Class Contents	Dr. Chun-Hong Kuo	
		Basic Chemistry: Atom, Molecule, and Ion		
2	2025-09-11(四)	Introduction to Nanotechnology	Dr. Chun-Hong Kuo	
3	2025-09-18(四)	Electron Microscope: Introduction to Structure	Dr. Chun-Hong Kuo	
4	2025-09-25(四)	Electron Microscope: Introduction to Principle	Dr. Chun-Hong Kuo	
5	2025-10-02(四)	Carbon Nanomaterials for Sustainable	Dr. Chun-Hong Kuo	
		Technology	Dr. chair Florig Rao	
6	2025-10-09(四)	Special Topic in Cuprous Oxide	Dr. Chun-Hong Kuo	
7	2025-10-16(四)	Midterm Exam	Dr. Chun-Hong Kuo	
8	2025-10-23(四)	Metallic Nanocrystals I	Dr. Chun-Hong Kuo	
9	2025-10-30(四)	Metallic Nanocrystals II	Dr. Chun-Hong Kuo	
10	2025-11-06(四)	Surface Adsorption	Dr. Chun-Hong Kuo	
11	2025-11-13(四)	Nanoarchitectonic Engineering and Temporal	Dr. Chun-Hong Kuo	
		Probing Spectroscopy	Dr. Chair Florig Rao	
12	2025-11-20(四)	Green Nano vs Life	Dr. Chun-Hong Kuo	
13	2025-11-27(四)	Introduction to Novel Nanotechnology (Student	Dr. Chun-Hong Kuo	
		Presentation/25 min) – A Group	Dr. Chan Florig Rao	
14	2025-12-04(四)	Introduction to Novel Nanotechnology (Student	Dr. Chun-Hong Kuo	
		Presentation/25 min) – B Group	= 11 211 3 11 11011 3 11 3 3	
15	2025-12-11(四)	Final Exam	Dr. Chun-Hong Kuo	
16	2025-12-18(四)	Discussion	Dr. Chun-Hong Kuo	