

Syllabus

(Fall Semester, 2025)

Course Title	Instrumental Analysis for Energy, 14:00~15:50 (Wed.), 11:00~11:50 (Thu.), 4E406						Credit	3
Professor	Name	Insoo Choi		Homepage	http://insoochoi.wixsite.com/cisgroup			
	E-mail	ischoi@kangwon.ac.kr		Phone No.	033-570-6315			
	Office	4E224		Office Hours	16:00 ~17:00 (Thu.)			
Course Objectives	Educating undergraduate students on the operating and analyzing principle of instruments that are utilized for qualitative and quantitative analysis of nano- or micro-materials in energy field							
Textbook	(주교재) 자체 제작 교재 사용							
Grading	Attendance	Assignments	Mid-term exam	Final exam	Participation	Etc.	Total	
	10%	-	30%	40%	-	20%	100%	
	Remarks	A (<30%), B (<40%), C + D (>30%)						
Lecture Plans	Week	Descriptions (tentative)						
	1	Introduction						
	2	Energy Materials and Properties						
	3	Introduction to Spectroscopic Method						
	4	UV-vis. Spectroscopy						
	5	IR Spectroscopy, Raman Spectroscopy						
	6	X-ray Diffraction						
	7	X-ray Photoelectron Spectroscopy I						
	8	Mid-term						
	9	X-ray Photoelectron Spectroscopy II						
	10	Scanning Electron Microscope						
	11	Transmission Electron Microscope						
	12	Scanning Probe Microscope (AFM, STM)						
	13	Thermal Gravimetric Analysis, Differential Scanning Calorimetry						
	14	Gas / High-Performance Liquid Chromatography						
	15	Final						
	Note	Class Cancelled:						