朝陽科技大學 091學年度第1學期教學大綱
Environmental Thermodynamics and Kinetics 環境動力化學

當期課號	7324	Course Number	7324
授課教師	章日行	Instructor	CHANG,JIH HSING
中文課名	環境動力化學	Course Name	Environmental Thermodynamics and Kinetics
開課單位	環境工程與管理系碩士班一A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	污染物於環境中的流佈，主要機制爲化學平衡與動力，本課程即幫助同學了解污染物如何受自然界影響，並奠定未來研究所需之基本動力化學知識，相關基礎學科包括古典熱力學(laws and equilibrium)、多種化合物平衡現象 (nonideal solution，fugacity)、環境熱力學 (air-water and soil-water)及環境動力學(kinetics laws，catalysis，redox reactions	Objectives	The fate and distribution of contaminants are controlled by chemical equilibrium and kinetics. This course help graduates understand how contaminants are influenced by the nature and embed graduates the fundamentals for future research. The course covers Classical Thermodynamics (laws and equilibrium), Multicomponent Equilibrium (nonideal solution，fugacity), Thermodynamics in environment (air-water and soil-water), and Kinetics in environment(kinetics laws，catalysis，redox reactions)
教材	1.lectures 2. discussion3.case study 4. homework all lectures are in English	Teaching Materials	1.教學說明 2. 討論 3. 案例研究 4. 作業習作
成績評量方式	1.期中考 30% 2. 討論及作業 30% 3. 期末考 40%	Grading	1.mid-term 30% 2. discussion and homework 30%3.final exam 40%
教師網頁			
教學內容	1.古典熱力學(laws and equilibrium)2.多種化合物平衡現象 (nonideal solution，fugacity)3.環境熱力學 (air-water and soil-water) 4.環境動力學(kinetics laws，catalysis，redox reactions	Syllabus	1.Classical Thermodynamics (laws and equilibrium)2.Multicomponent Equilibrium (nonideal solution，fugacity)3.Thermodynamics in environment (air-water and soil-water)4.Kinetics in environment(kinetics laws，catalysis，redox reactions

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