朝陽科技大學 093學年度第1學期教學大綱
Chemistry 化學

當期課號	1009	Course Number	1009
授課教師	陳桂清	Instructor	CHEN,KUEI CHUNG
中文課名	化學	Course Name	Chemistry
開課單位	營建工程系(四日)一A	Department	
修習別	必修	Required/Elective	Required
學分數	2	Credits	2
課程目標	藉由化學課程，希望提供學生化學基本觀念和原理的基礎知識，並讓他們了解化學對我們生活的影響。本課程三個主要目的：第一、介紹化學基本觀念和原理。第二、培養學生解決問題和批判思考的技巧能力。第三、增進學生瞭解化學在當代所扮演的重要角色和使他們完成本課程後，俱備有用的分析能力。	Objectives	By way of Chemistry, we wish to provide a foundation in chemical concepts and principles to students and let them understand the influence of chemistry around our lives.There are three major goals of this course: first, to introduce the basic concepts of chemistry. Secondly, to develop students" problem-solving and critical thinking skills. Thirdly, to increase students" awareness of the significant role chemistry plays in contemporary life and to equip them all with some analytical skills that they will find useful even after they"ve completed the course.
教材	1.自編講義 2.Concrete(Sidney Mindess & J. Francis Young) 3.Corrosion of steel in concrete(John P. Broomfield) 4.Basic concepts of chemistry (Leo J. Malone) 5.Chemistry Principles and Reactions	Teaching Materials	
成績評量方式	期中：30% 期末：30 平時考：20% 作業：20%	Grading	Med.test:30%, Final test:30%, Quiz:20%, Homework:20%
教師網頁			
教學內容	將相關基礎化學理論與應用，融入營建工程領域。舉凡從結構物之外觀或建造材料，凡涉及化學(成份)變化並衍生其它性質改變者，諸如水泥材料之化性行爲變化，混凝土爲硫酸鹽、中性化或鹼質與粒料反應(AAR)之侵襲，或內部鋼筋發生腐蝕作用，或使用化學摻劑(諸如強塑劑)以改善漿體之工作性與品質，或使用高分子修補材料做結構補強，或應用電化學防蝕技術改善鋼筋之腐蝕狀況，皆爲教學之範圍。	Syllabus	The course focused on civil constructional materials chemistry ingredients and their chemical reactions. Topics are included basic chemistry principles, cement chemistry, concrete, durability, alkali-aggregate reaction, rebar corrosion, chemical admixtures, polymers materials and electrochemical technigues applying on rebar corrosion prevention.

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