朝陽科技大學 097學年度第2學期教學大綱
General Chemistry（Ⅱ）普通化學(二)

當期課號	1725	Course Number	1725
授課教師	陳家鐘	Instructor	CHEN,CHIA CHUNG
中文課名	普通化學(二)	Course Name	General Chemistry (Ⅱ)
開課單位	應用化學系(四日)一A	Department	
修習別	必修	Required/Elective	Required
學分數	3	Credits	3
課程目標	介紹化學之基本知識與觀念，使學生開始接觸較基礎的有機化學、分析化學、物理化學、生物化學，以便在二年級以後更有效率地學習各門化學之專業科目。?	Objectives	This course deals with the preliminary introduction of first-year college chemistry. It includes the basic materials of organic chemistry, inorganic chemistry, analytic chemistry and physical chemistry. The details of the contents involving chemical bonding, elements, and chemical compounds, solution chemistry, various types of chemical reaction consisting of acid and base, oxidation and reduction, precipitation, etc., thermochemistry, chemical equilibrium, kinetics, thermodynamics, coordination compounds, organic chemistry and polymers. The format of this course includes lecture, problem sets, examination and recitation.?
教材	"普通化學 / General Chemistry", by Raymond CHang, 4th ed., McGraw Hill International Edition, 2006.	Teaching Materials	"General Chemistry", by Raymond CHang, 4th ed., McGraw Hill International Edition, 2006.
成績評量方式	七次小考, 一次期中考, 一次期末考.	Grading	7 quizes, 1 mid-term exam, 1 final exam
教師網頁			
教學內容	10. 化學鍵 Ⅱ 11. 基本有機化學 12. 溶液之物理性質 13. 化學動力學 14. 化學平衡 15. 酸鹼反應 16. 酸鹼平衡與溶解度平衡 17. 熱力學 18. 氧化還原反應與電化學	Syllabus	10. Chemical Bond Ⅱ. 11. Introduction to Organic Chemistry: aliphatic & aromatic hydrocarbon; functional groups; chirality. 12. Physical Properties of Solutions: solution process; concentration units; effect of temperature; effect of pressure; colligative properties. 13. Chemical Kinetics: reaction rate; rate laws; activation energy; reaction mechanism; catalysis. 14. Chemical Equilibrium: equilibrium constant; factors affaect K. 15. Acids & Bases: measure of acidity; strength od acid & base; acid ionization constants of weak acid and base; properties of salt; oxides; Lewis acid & base. 16. Acid-Base Equilibria & Solubility Equilibria: buffer solution; acid-base titration; indicator; solubility equilibria; common ion effect; complex ion equilibria. 17. Thermodynamics: three laws; spontaneous process; entropy; Gibbs free energy; chemical equilibrium. 18. Redox Reaction & Electrochemistry: redox reaction; Galvanic cell; standard reduction potential; cell Emf; batteries; corrosion; electrolysis.

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