朝陽科技大學 094學年度第2學期教學大綱
Basic Chemistry Exercise 基礎化學演習

當期課號	1426	Course Number	1426
授課教師	陳家鐘	Instructor	CHEN,CHIA CHUNG
中文課名	基礎化學演習	Course Name	Basic Chemistry Exercise
開課單位	應用化學系(四日)一A	Department	
修習別	選修	Required/Elective	Elective
學分數	1	Credits	1
課程目標	依照普通化學課程之進度，以較淺顯的理論與實例，將課程內容做更詳細之講解，對於課本中較難的化學原理，作多次的教導。並引導學生多練習教科書的習題，將提供部分習題的解答與解法，並就較難的題目與學生共同討論。	Objectives	According to the progress of General Chemistry, this course offers the detailed discussion in the contents of chemistry. Especially to the more difficult portions in the textbook, repeated teaching will be available for the students who fall behind the class. The students will be guided to work on the exercise problems in the textbook. Part of the answers and the equations for the problems will be provided and discussed between the instructor and the students.
教材	"普通化學 / General Chemistry", by Raymond CHang, 4th ed., McGraw Hill International Edition, 2006.	Teaching Materials	
成績評量方式	一次期中考, 一次期末考.	Grading	1 mid-term exam, 1 final exam
教師網頁			
教學內容	依照普通化學之大綱, 但是內容較爲簡明 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	To follow the same guidelines as General Chemistry, with simpler contents. 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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