屏東科技大學 - 數位學習平台

課程名稱: (1111)普通化學實驗(3435)_四熱農一A(1111)General Chemistry Lab.(3435)

授課教師:郭信威

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開課班級: 四熱農一A 學分數:1

課程大綱:

本課程的目的強調基本化學實驗、觀察方法、測量和基本計算。 概述如下: 1. 混合物的分離, 2. 密度的測量, 3. 固體的含水量, 4. 質量守恆定律, 5. 化學計量學, 6. 定比定律, 7. 氧化還原反應, 8. 溶液稀釋, 9. 氧化還原滴定, 10. 氣體定律, 11. 通過密度值確定氣體的莫爾質量, 12. 熱反應, 13. 分子模型。

outline:

he purpose of this course emphasizes the skill of basic chemical experiment, methods of observations, measurement and basic calculation. Attempts to give the students identify the theory corresponding with observations and measurement. In order to build up foundations for the study of General Chemistry experiment (2) and the other related sciences. The outlines are offered as below: 1. The separation of mixtures, 2.Measurement of density, 3.Water content of solid, 4.Law of conservation of mass, 5.Stoichiometry, 6.Law of definite proportions, 7.Redox reaction, 8.Dilution of solutions, 9.Redox titration, 10.The gas laws, 11.Determinate the molar mass of a gas by its density value, 12.Measuring the enthalpy of reaction, 13.Molecular models.

教學型態: 成績考核方式: 實習(校內、校外) 平時成績:20% 期中考:% 期末考:20% 其它:60%

本科目教學目標:

- 1.培育熱帶農業基礎人才。 2.發展農、林、漁、牧相關技術。
- 3.建立永續農業經營與國際合作觀。

參考書目:

普通化學實驗

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課程進度表:

課程進度 ² 週次	起訖月日	授課單元(內容)	備註
第1週	9.12~9.19		8日正式上課。8~12日課程加
701/2	0.12 0.10	Kuo If you have any question or problem,	退選,轉學(系)生、復學生及
		please contact me as following:	延修生選課,雙主修、輔系
		E-mail:;hwkuo@mail.npust.edu.tw Line ID:	申請,12日申辦抵免學分截
		weislc	止日
第2週	9.19~9.26	To understand the importance of the	
		calibration of electronic (weighing) balance.	
第3週	9.26~10.03	To learn the methods and skills to separate the	28日(日)孔子誕辰紀念日/教
		mixture of substances using their physical	師節(放假),29日(一)補假
		characteristics.	
第4週	10.03~10.10	To learn the methods and skills to measure the	29日成績優異提前畢業者提
		density of substances/matters.	出申請截止日
第5週	10.10~10.17	To learn the methods and skills to measure the	
		water content (absorbed water and hydrated	五)國慶日(放假)
		water) in solids using copper sulfate.	
第6週	10.17~10.24	(1) To determine the numbers of moles of	14日學生宿舍安全輔導暨複
		, ,	合式防災疏散演練。18日多
		of potassium chlorate (KCIO3) by an analytical	益測驗
		method. (2) To determine the chemical	
		formula of potassium chlorate (KClO3) by its	
第71日	10.24~10.31	empirical formula.	24日(五)建伊 25日(六)火炬
第7週	10.24~10.31	To verify the Boyle 's Law using the relationship between gas volume and gas	24日(五)補假, 25日(六)光復 暨古寧頭大捷日(放假)。
		pressure when the amount of gas maintains	重口学與入淀口(//XIRX)。
		constant at certain temperature.	
第8週	10.31~11.07		
المحادر	10.01	measurement. (2) To calculate the molecular	
		mass of solvent using the vapor density and	
		ideal gas equation (PV = nRT)	
第9週	11.07~11.14	MIDTERM EXAM	3~9日期中考試
第10週	11.14~11.21		13日教務會議,16日教師期中
			成績上網登錄截止日
第11週	11.21~11.28	(1) To familiar with the calculation for the	
		concentration of solutions. (2) To practice the	
		procedures of preparing standard solutions.	
第12週	11.28~12.05		24~28體育運動週。24日校園
		before and after a reaction for the confirmation	
		of the Law of Mass Conservation.	幕,28日運動大會活動,29
			日101週年校慶活動日,照常
第123国	12.05 12.12	(1) To understand the concept of	上班
第13週	12.05~12.12	(1) To understand the concept of	
		neutralization. (2) To practice the operation of	
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		titration. (3) To calculate the concentration of unknown acidic or basic solution using	
		titration.	
第14週	12.12~12.19	(1) To familiar with the redox reactions. (2) To	12日申請停修課程截止日
		understand the oxidation strength of Zn, Pb,	
		and Cu (metal activity series).	
第15週	12.19~12.26	(1) To familiar with the measurement of	
		reaction heats for dissolution and	
		neutralization. (2) To calculate the enthalpy of	
		reaction.	
第16週	12.26~1.02	(1) To understand the definition of pH. (2) To	22日校務會議。25日行憲紀
		familiar with the operation of a pH meter.	念日(放假)
		(3) To measure the pH of a solution using	
		indicators and a pH meter.	
第17週	1.02~1.09	FINAL EXAM	1日(四)開國紀念日(放假)
第18週	1.09~1.16		5~11日期末考試,10~11日
			學生退宿

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