



《尊重智慧財產權，請使用正版教科書，勿非法影印書籍及教材，以免侵犯他人著作權》

開課班級：四熱農二A

授課老師：陳光堯

學分數：2

課程大綱：

本課程的目的，在使學生瞭解土壤在地球生態系中扮演的角色，同時認識肥料之成分及功能。土壤部份的課程內容有土壤的生成與分類、土壤的物理與化學性質、土壤中之有機質與生物相、土壤水份與管理、土壤與植物之關係等。肥料部份的課程內容有認識肥料、肥料元素、有機質肥料與化學肥料、肥料需要量的決定及肥料施用法等。

outline:

This course provides knowledge and information to student about soil science and the role in ecosystem, different types of fertilizers and their applications will also be introduced. The contents include knowing soils, genesis and classification of soils, soil physics and chemistry, organic matters and soil biology, water in soils, plants and soils and soil management. The fertilizer part includes knowing fertilizers, fertilizer elements, organic and inorganic fertilizers, decision making for fertilizer requirement and fertilizer application methods.

教學型態：

課堂教學

成績考核方式：

平時成績:30%

期中考:30%

期末考:30%

其它:Attendance 10%%

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：

(1) Elements of the Nature and Properties of Soils: Pearson New International Edition. 3rd edition. Weil & Brady. ISBN 9781292039299. (2) Elements of the Nature and Properties of Soils, 4th Edition. Brady & Weil. Pearson. ISBN 9780133254594.

<https://www.pearson.com/us/higher-education/program/Brady-Elements-of-the-Nature-and-Properties-of-Soils-4th-Edition/PGM178119.html>.



課程進度表：

週次	起訖月日	授課單元(內容)	備註
第1週	9.08~9.15	UNIT 0 Introduction - Class introduction, general guidelines- The soils around us (Chapter 01)	8日正式上課。8~12日課程加退選，轉學(系)生、復學生及延修生選課，雙主修、輔系申請，12日申辦抵免學分截止日
第2週	9.15~9.22	UNIT 0 Introduction - The soils around us (Chapter 01) ; UNIT 1 Soil Formation and Classification - Formation of soils from parent materials (Chapter 02)	
第3週	9.22~9.29	UNIT 1 Soil Formation and Classification - Formation of soils from parent materials; (Chapter 02) - Soil taxonomy and classification; (Chapter 03)	28日(日)孔子誕辰紀念日/教師節(放假),29日(一)補假
第4週	9.29~10.06	28th Confucius's Birthday (Teacher ' s Day; Holiday) 29th Observed Holiday UNIT 1 Soil Formation and Classification - Soil taxonomy and classification; (Chapter 03) ; UNIT 2 Soil physical properties - Soil architecture and physical properties; (Chapter 04)	29日成績優異提前畢業者提出申請截止日
第5週	10.06~10.13	Mid-Autumn Festival;(Holiday) UNIT 2 Soil physical properties - Soil architecture and physical properties; (Chapter 04) - Soil aeration and temperature; (Chapter 07)	6日(一)中秋節(放假)，10日(五)國慶日(放假)
第6週	10.13~10.20	UNIT 2 Soil physical properties - Soil aeration and temperature; (Chapter 07) ; UNIT 3 Soil Water - Characteristics and behavior of soil water; (Chapter 05)	14日學生宿舍安全輔導暨複合式防災疏散演練。18日多益測驗
第7週	10.20~10.27	UNIT 3 Soil Water - Characteristics and behavior of soil water; (Chapter 05)	24日(五)補假，25日(六)光復暨古寧頭大捷日(放假)。
第8週	10.27~11.03	UNIT 3 Soil Water - Soil and the hydrologic cycle; (Chapter 06)	30日校課程委員會
第9週	11.03~11.10	MIDTERM EXAM	3~9日期中考試
第10週	11.10~11.17	UNIT 4 Soil Chemical Properties - The colloidal fraction (Chapter 08)	13日教務會議,16日教師期中成績上網登錄截止日
第11週	11.17~11.24	UNIT 4 Soil Chemical Properties - The colloidal fraction (Chapter 08) - Soil acidity, alkalinity, aridity, and	



		salinity;(Chapter 09)	
第12週	11.24~12.01	UNIT 4 Soil Chemical Properties - Soil acidity, alkalinity, aridity, and salinity;(Chapter 09) ; UNIT 5 Soil organic matters - Organisms and ecology of the soil (Chapter 10)	24~28體育運動週。24日校園路跑。27日運動大會夜間開幕，28日運動大會活動，29日101週年校慶活動日，照常上班
第13週	12.01~12.08	UNIT 5 Soil organic matters - Organisms and ecology of the soil;;(Chapter 10) - Soil organic matter;;(Chapter 11)	
第14週	12.08~12.15	UNIT 5 Soil organic matters - Soil organic matter;;(Chapter 11) ; UNIT 6 Nutrient Management and Fertilizers - Nutrient cycles and soil fertility; (Chapter 12)	12日申請停修課程截止日
第15週	12.15~12.22	UNIT 6 Nutrient Management and Fertilizers - Nutrient cycles and soil fertility (Chapter 12) ;	
第16週	12.22~12.29	UNIT 6 Nutrient Management and Fertilizers - Practical nutrient management (Chapter 13)	22日校務會議。25日行憲紀念日(放假)
第17週	12.29~1.05	UNIT 6 Nutrient Management and Fertilizers - Practical nutrient management (Chapter 13) ; UNIT 7 Erosion and Pollution - Soils and chemical pollution (Chapter 15) ; Course Review	1日(四)開國紀念日(放假)
第18週	1.05~1.12	FINAL EXAM.	5~11日期末考試，10~11日學生退宿