

國立中正大學課程大綱
National Chung Cheng University
Course Syllabus

學年/學期(Academic Year / Semester)		114-2	
課程名稱(Course name)	Palynology and Environment		
課碼(Course code)	2015008 / 2708020	學分數 Credit(s)	3
授課教師(Instructor)	Liang-Chi Wang Email: lcwang@ccu.edu.tw tel: +886-5-2720411 ext. 66224		
	<input type="checkbox"/> Professor <input type="checkbox"/> Associate Professor <input checked="" type="checkbox"/> Assistant Professor		
授課方式 (teaching methods)	<input type="checkbox"/> Lab <input type="checkbox"/> Seminar <input type="checkbox"/> Student Presentation <input checked="" type="checkbox"/> Lecture <input type="checkbox"/> other		
先修科目(Prerequisite)	This course is intended for graduate students in Environmental Engineering, Chemical Engineering, Materials Science, Chemistry, Soil and Water Sciences, Geology, and Environmental Science. A strong background knowledge in ecology and environmental science necessary.		
課程介紹與教學目標 (Course Description and Objectives)	Course Description —(3 credits): This course deals with pollen and spores of modern plants that are used as references for the identification of the fossilized ones using the shape and structures of pollen grains and spores. The course covers taxonomy, application of fossil pollen in dating sediments is emphasized. This course involves field and laboratory works. Maximum number of students are ten. Objectives: Students who successfully complete this course should have: a. Describe the structures, textures, shapes of pollen grains and spores. b. Identify using an optical microscope the different pollen grains/spores of modern and ancient plants. c. Explain how fossil pollen provides a record of past environment and ecology.		
教科書及參考書 (Textbooks and References)	1. Hesse, M., Halbritter, H., Zetter, R., Weber, M., Buchner, R., Frosch-Radivo, A., Ulrich, S., 2008. Pollen terminology. Springer. 2. Huang, T.-C., 1972. Pollen Flora of Taiwan. National Taiwan University Botany Department Press, Taipei, p 297.		
學習評量與成績配分 (Assessment and Grade)	Homework.....20% Oral Presentations.....30%		

scale)	Final report.....30%
	Final exam.....20%
課程要求 (Course Requirements)	Attendance is required
課程進度(Course Schedule)	
Week	Contents
PART-1:	POLLEN MORPHOLOGY
Week 01	Introduction
Week 02	Arboreal pollen 1
Week 03	Arboreal pollen 2
Week 04	Arboreal pollen 3
Week 05	Non-Arboreal pollen 1
Week 06	Non-Arboreal pollen 2 and other NPP
PART-2:	POLLEN EXTRACTION
Week 07	Fresh pollen extraction
Week 08	Honey pollen extraction
Week 09	Fossil pollen extraction
Week 010	Pollen slide preparation
PART-3:	POLLEN ANALYSIS
Week 011	Pollen atlas
Week 012	Pollen counting
Week 013	Pollen diagram
Week 014	Numerical analysis for pollen data 1
Week 015	Numerical analysis for pollen data 2
PART-4:	PAPER PRESENTATIONS
Week 016	Specific Topic Lecture by students
Week 017	Specific Topic Lecture by students
Week 018	Final Exam

