朝陽科技大學 097學年度第1學期教學大綱
Natural Ventilation Design for Buildings 自然通風設計

當期課號	1954	Course Number	1954
授課教師	葉琮勤	Instructor	YEH,TSUNG CHYN
中文課名	自然通風設計	Course Name	Natural Ventilation Design for Buildings
開課單位	建築系(四日)四A	Department	
修習別	選修	Required/Elective	Elective
學分數	2	Credits	2
課程目標	此課程所教授之內容及原則將教育建築系學生能夠達成以下所列目標: （1）予建築設計初期階段能有效的考慮自然通風設計，例如：建築物之配置及形體之考量。（2）廣泛了解各種建築自然通風之技術及可行策略。（3）藉課程培養與暖通設計工程師及業主從事有效之交流能力。以上之目標可藉由自然通風之定性分析方法及物理現象描述達成，但許多建築師仍希望能更深入的以定量方法分析，即使建築師並無相關之高深技術背景; 這仍是可能達到的，這便是此此課程之第四個目標，針對數種常見之建築種類進行定量計算分析。	Objectives	To provide information and guidance that will enable architectural students (i) To make informed decisions about the design of naturally ventilated buildings, particularly at the outline stage of a project (e.g. when basic decisions are made about the form and layout of a building) (ii) To understand in a qualitative way the many technical issues raised by natural ventilation and the solutions that are available to the design engineer (iii) to engage in an informed dialogue with design engineers and with clients The above aims can be met by providing qualitative and physical descriptions of natural ventilation phenomena. However, some Architects may wish to proceed further and be involved in quantitative procedures. In many cases this does not require a highly technical background. Thus, the fourth aim is to enable them (iv) to carry out simple quantitative calculations that are often sufficient for certain types of building.
教材	1. 自編投影片 2. 綠建築解說與評估手冊2007更新版 3. 建築技術規則 4. BATTLE McCARTHY CONSULTING ENGINEERS, 1999, WIND TOWERS--Detail in Building, John Wiley &Sons Ltd. 5. J.H. Klote & J.A. Milke, 2002, " Design of smoke management systems ", ASHRAE Inc., Atlanta. 6. Ventilation of large space in buildings- Analysis and prediction techniques	Teaching Materials	1.Powerpoint Files 2. BATTLE McCARTHY CONSULTING ENGINEERS, 1999, WIND TOWERS--Detail in Building, John Wiley &Sons Ltd. 3. J.H. Klote & J.A. Milke, 2002, " Design of smoke management systems ", ASHRAE Inc., Atlanta. 4. Ventilation of large space in buildings- Analysis and prediction techniques
成績評量方式	1.平時與作業成績佔50% 2.期中考成績佔20% 3.期末考成績佔30%	Grading	1. 50% class participation 2. 20% mid-term exam 3. 30% final exam
教師網頁			
教學內容	1. 建築通風設計概論 2. 自然通風原理 3. 自然通風設計理念 4. 通風設計之環境控制 5. 自然通風區域模式分析 6. 自然通風場模式分析 7. 自然通風設計之緊急排煙模式 8. 建築物自然通風設計案例分析	Syllabus	1. Introduction of Natural Ventilation 2. Theory of Natural Ventilation 3. Design Concept of Natural Ventilation 4. Natural Ventilation Design for Environmental Control 5. Zone Model Analysis for Natural Ventilation Design 6. Field Model Analysis for Natural Ventilation Design

			7. Natural Ventilation for Exhaust Smoke System Design 8. Design Case Study in Natural Ventilation

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