朝陽科技大學 096學年度第2學期教學大綱
Fluid and Wind Flow on Building and Surrounding Environment 流體風場與建築環境

當期課號	7711	Course Number	7711
授課教師	包匡	Instructor	
中文課名	流體風場與建築環境	Course Name	Fluid and Wind Flow on Building and Surrounding Environment
開課單位	建築及都市設計研究所碩士在職專班一A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	1.使同學瞭解流體之特性及相關公式 2.瞭解風場之特性及相關公式 3.風場對建築物環境造成之影響 4.應用風洞實驗於建築環境,增進或改善其對風力的抵抗及提供適當使用空間環境	Objectives	1.Let students understand the characters of fluid. Relevant formula and equations will be taught in the class. 2.To understand the wind and relevant formula. 3.The effects of buildings and surrounding environment in wind field. 4.Appling wind tunnel test on building and environment, in order to reinforce the weak point and to improve the space activities in architectural design.
教材	於每次課程提供講義及該階段之參考書目及文章	Teaching Materials	Providing handout and reference for each chapter
成績評量方式	平時成績:30% (出席20%,隨堂測驗10%) 期中考成績:30%(期中相關報告)， 期末考成績:40%(期末相關報告)	Grading	Quiz and Presence: 30%, Midterm report examination: 30%, Final report examination: 40%
教師網頁			
教學內容	1.流體之特性:定義,種類,形成,案例 2.流體靜力學:壓力,帕斯卡原理,性質,壓力量測計,浮力 3.流體動力學:描述流體運動,均勻流動,流況分類 4.流體傳輸方程式:流量,傳輸方程式 5.自由流:伯努力方程式,:N-S方程式 6.流體因次:相關單位及比例 7.風之特性:定義,種類,形成,案例 8.風對建築物及環境之影響及破壞 9.風場相關係數及方程式 10.建築物及建築元素受風影響 11.環境風場的變化 12.風洞簡介 13.風洞實驗 14.結論與建議	Syllabus	1.General concept of fluid：Definition, Formation, 2.Fluid statics 3.Fluid kinematics 4.Fluid transport equation 5.Free flow 6.Fluid dimension 7.The characters of wind: definition, formation, occurred areas 8.General concept of different wind and disasters causes 9.Reynolds number and relevant equations 10.Wind effect on buildings and elements 11.Wind effect surrounding environment 12.Introduction of wind tunnel 13.Wind tunnel experiment 14.Conclusions and suggestion

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