朝陽科技大學 097學年度第2學期教學大綱
Wastewater Treatment 廢水處理

當期課號	1838	Course Number	1838
授課教師	莊順興	Instructor	CHUANG,SHUN HSING
中文課名	廢水處理	Course Name	Wastewater Treatment
開課單位	環境工程與管理系(四日)二B	Department	
修習別	必修	Required/Elective	Required
學分數	3	Credits	3
課程目標	本課程主要是探討水處理各種單元操作的原理與基本設計，內容包括物理單元之沈澱、過濾、吸附；化學單元之混凝、加氯消毒；生物單元之活性污泥法、生物膜法及厭氧分解；及污泥之處理如濃縮、消化、脫水等。	Objectives	The course investigates various unit operations and processes for water treatment, including sedimentation, filtration, adsorption for physical treatment；coagulation and disinfection for chemical treatment；activated sludge, biofilm processes and anaerobic processes for biological treatment；and thickening, digestion and dewatering for sludge handling and management. The course not only introduces the principle of each treatment unit, also the basic mathematical technique and functional design method. A corresponding laboratory course is also provided at the same semester to allow students learning the topic from experiments. The students are encouraged to take both of the classes at the same time for complete learning.
教材	1.下水道工程學(歐陽嶠暉 編著，2001) 2.Wastewater Engineering – Treatment, Disposal, and Reuse, Metcalf & Eddy Inc., ,McGraw-Hill Book Company, 1991.	Teaching Materials	1.下水道工程學(歐陽嶠暉 編著，2001) 2.Wastewater Engineering – Treatment, Disposal, and Reuse, Metcalf & Eddy Inc., ,McGraw-Hill Book Company, 1991.
成績評量方式	1.平時成績(出席率、課堂討論)20% 2.學習評量作業(含小考)20%, 3.期中考30%, 4.期末考30%	Grading	1.Class participation 20% 2.Problem assignment 20% 3.Midterm exam 30% 4.Final exam 30%
教師網頁	http://www.cyut.edu.tw/~typai/		
教學內容	本課程主要是探討水處理各種單元操作的原理。內容包括物理單元之沈澱、過濾、吸附；化學單元之混凝、加氯消毒；生物單元之活性污泥法、生物膜法及厭氧分解；及污泥之處理如濃縮、消化、脫水等。教學之目的除了著重各處理單元原理之探討外，亦包含初級的數學模式分析技巧，及各功能設計方法。	Syllabus	The course investigates various unit operations and processes for water treatment, including sedimentation, filtration, adsorption for physical treatment；coagulation and disinfection for chemical treatment；activated sludge, biofilm processes and anaerobic processes for biological treatment；and thickening, digestion and dewatering for sludge handling and management. The course not only introduces the principle of each treatment unit, also the basic mathematical technique and functional design method. A corresponding laboratory course is also provided at the same semester to allow students learning the topic from experiments. The students are encouraged to take both of the classes at the same time for complete learning.

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