朝陽科技大學 099學年度第1學期教學大綱
Industrial Waste Minimization and Resource Recovery 工業減廢與資源再生

當期課號	1487	Course Number	1487
授課教師	黃輝源	Instructor	HWANG,HOEI YUAN
中文課名	工業減廢與資源再生	Course Name	Industrial Waste Minimization and Resource Recovery
開課單位	理工學院(四日)	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	1.講解國際及國內工業減廢及資源再生趨勢，促使學習者能掌握環境保護的動向。 2.講解工業減廢及資源再生技術，啓發學習者效法並從事研究發展。 3.介紹工業減廢及資源再生的成功案例，使學習者能將理論與實務予於結合並應用。 4.使學習者瞭解永續發展之精隨，共同爲環境保護而努力。	Objectives	1.Explain the international and domestic trends of industrial waste minimization and resource recovery, to promote learners can grasp the trend of environmental protection. 2.Explain the technology of industrial waste minimization and resource recovery, to inspired learners can engage in research in future. 3.Introduction the success case of industrial waste minimization and resource recovery, so that learners can be in combining theory with practice and application. 4.To promote learners understand the essence of sustainable development, to effort for environmental protection with together.
教材	1.產業減廢與資源化，陳有志著，全威圖書有限公司。 2.生質物與生質能，陳維新著，高立圖書公司。	Teaching Materials	1.Industrial waste reduction and resource, Edited by Chen Yeou-Jyh, Chen-Wei Books Ltd. 2.Biomass and Bioenergy, Edited by Chen Wei-Shi, Gue-Li Books Ltd.
成績評量方式	期中考試佔50%。 期末考試佔50%。	Grading	Midterm Exam 50%. Final Exam 50%.
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教學內容	以Powerpoint教學，講授內容包括二十一章，分別如下： 1.概說 2.我國資源再生行政 3.工業減廢與資源再生方案評估 4.清潔生產與減廢 5.生質能特性 6.物理轉換 7.燃燒 8.氣化 9.裂解 10.堆肥 11.沼氣 12.固態廢棄物衍生燃料技術 13.廚餘再利用 14.大型焚化廠營運現況 15.廢汽機車資源回收與再生 16.廢塑膠資源回收與再生 17.電鍍業減廢與資源再生 18.光電業減廢與資源再生 19.印刷電路板業減廢與資源再生 20.鋼鐵業減廢與資源再生 21.從搖籃到搖籃	Syllabus	Use to powerpoint in teaching, the content include Chapter 1to 21 as follows: 1.Introduction. 2.Administration of industrial waste minimization and resource recovery on Taiwan. 3.The program evaluation of industrial waste minimization and resource recovery. 4.Cleaner production and waste reduction. 5.The characteristics of Biomass energy. 6.The physical transformation methods. 7.Combustion. 8.Gasification. 9.Lysis. 10.Composting. 11.Biogas. 12.RDF technology for solid waste. 13.Kitchen waste recycling. 14.Large-scale incineration plant operational status. 15.Waste recycling and regeneration of motor vehicles. 16.Waste recycling and regeneration of plastic. 17.Waste recycling and regeneration

			of electroplating industry. 18.Waste recycling and regeneration of optoelectronics industry. 19.Waste recycling and regeneration of printed circuit board industry. 20.Waste recycling and regeneration of iron and steel industry. 21.From the Cradle to Cradle.

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