朝陽科技大學 096學年度第1學期教學大綱
Research/Development and Manufacturing of New Technologies_Syllabus 高科技研發與製造

當期課號	1573	Course Number	1573
授課教師	林均燁	Instructor	LIN,JIUN YEH
中文課名	高科技研發與製造	Course Name	Research/Development and Manufacturing of New Technologies_Syllabus
開課單位	工業工程與管理系(四日)四A	Department	
修習別	選修	Required/Elective	Elective
學分數	3	Credits	3
課程目標	本課程的主要目標在引導學生對於當前炙手可熱的各類型高科技產業的研發與製造相關發展與應用進行一系列的討論。尤其是對於當前炙手可熱的各類型高科技產業的研發與製造相關發展與應用進行一系列的討論。進而探討在各類型科技迅速發展的今日，企業如何在微笑曲線的研發、製造與行銷三個層面強化競爭力，藉以更進一步地討論研發與創新的相關議題。在"不了解科技、如何管理"的原則上，本課程可以說是"科技管理"的入門課程、同時也是引導學生瞭解研發與創新之重要性的課程。學期中將至少規劃一次的工廠見習，用以提升學生對於相關實務的認知。	Objectives	Research and development (R&D) engineering is on the left side of the famous smiling curve. Since the government started encouraging industrialists to promote their companies from OEM to ODM, and even to OBM industries, the road to approach R&D and innovation has become a difficult but necessary way to walk. On the way to R&D and innovation, the strategies can be effectively defined only by combining viewpoints from globalization, exterior competition, and interior capability. Simply speaking, this course is not focused on product design and development. It is focused on the study of principles of R&D and innovation top-down from overall strategies and creativity. Comparing with "product design and development," this course is more metaphysic.
教材	1.21世紀製造程序(21st Century Manufacturing, Paul Kenneth Wright), 高永洲等譯, 高立書局。 2.自動化生產系統, 王俊程等譯, 高立圖書。 3.講義。	Teaching Materials	1.21st Century Manufacturing, Paul Kenneth Wright, Chinese translated. 2.Automation, Production Systems, and Computer-Integrated Manufacturing, Groover, P.A., Chinese translated. 3.Class handouts.
成績評量方式	學期報告初稿20%、學期期末報告30%、期中考25%、期末考25%。	Grading	term project draft 20%、final term project 30%、midterm 25%、final 25%.
教師網頁	http://www.cyut.edu.tw/~jlin/		
教學內容	由微笑曲線看研發與創造力、研發流程與方法的演進、製造與製造分析、3D技術與RE、RP的整合應用、材料科技的發展與重要性、豐田生產系統(TPS)概論、多種產品的研發與製造、TRIZ概述、第四代研發概述。	Syllabus	Outlook from the smiling curve, evolution of R&D and innovation, manufacturing and manufacturing analysis, the integrated application of 3D technologies and RE and RP, the evolution and importance of material science, introduction to Toyota production system, R&D and manufacturing of several varieties of products, introduction to TRIZ and 4th generation R&D.

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