朝陽科技大學 099學年度第1學期教學大綱
Product Design and Development 產品設計與開發

當期課號	1618	**Course Number**	1618
授課教師	林均燁	**Instructor**	LIN,JIUN YEH
中文課名	產品設計與開發	**Course Name**	Product Design and Development
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	在微笑曲線兩端的其中一端即是研發與創造力工程。在政府大力鼓吹民間企業由OEM升級到ODM、甚至於升級到OBM的企圖心之下，實際上研發與創新對於已經習慣於生產製造文化的大部份國內企業而言，是一個極爲艱辛、但是勢必要積極提升的方向。本課程將以實務案例探討與演練的方式，介紹產品研發與創新過程中常用的各種工具，用以讓學生未來追求進階教育時能夠延續到整體的產品規劃、概念設計、概念選擇、直到產品開發與改善的架構探討。課程主要內容爲產品研發與創新早期階段的探討，將不會直接涉及機械、電機等產品研發後段的學習。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/development (R&D) and innovation is on the left-hand side of the well-known smiling curve. Under the circumstance that the Taiwanese government encourages industry to promote from OEM to ODM, and even to OBM, R&D and innovation issues have become the most challenging issues to conquer because most Taiwanese industry are used to only production/manufacturing culture. The objective of this course is to guide students throughout the product R&D and innovation tools along with theoretical fundamentals, so that students can integrate the tools into R&D systematic process while they are pursuing higher education. This course is more realistic in the R&D and innovation concept phase without touching the mechanical or electronic engineering domain knowledge. This course will guide students throughout the R&D and innovation process by heavy-weight term projects.
教材	1. 持久創新, 財信出版社. 2. 產品設計與開發，張書文、戴華亭譯，高立書局。 3. 講義。	**Teaching Materials**	1. Permanent Innovation. 2. Product design and development, Eppinger and Ulrich. 3. Class notes.
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**	Initial term project report 20%, Final term project report 30%, Midterm 25%, Final exam 25%.
教師網頁	http://www.cyut.edu.tw/~jlin/		
教學內容	產品設計與開發簡介，傳統研發流程與電腦輔助研發流程，專案管理方法與工具，設計結構矩陣，品質機能展開，發明創新問題解題理論，製造與組裝設計法則，其他產品優化設計法則。	**Syllabus**	Introduction to product design and development, traditional and computerized R&D process, R&D Project management, design structure matrix, quality function deployment, TRIZ, design for manufacturing and assembly, design for excellence.

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