

IEEM 5401 創新研發管理
Innovation and R&D Management

Class Room: 工一館 TBD 室

Instructor: 許棟樑 (Sheu, D. Daniel)

Schedule: W (6:30 – 9:20 PM)

Contact: dsheu@ie.nthu.edu.tw

課程說明:

The course teaches the processes for the management of innovative Product Design and Development. Besides learning the concepts, students are required to form a team to actually develop a plan and create a design model for a new product to be developed. The course is intended to provide you with the following benefits:

- Competence with a set of tools and methods for product design and development.
- Confidence in your own abilities to create a new product.
- Awareness of the role of multiple functions in creating a new product (e.g. marketing, finance, industrial design, engineering, production).
- Ability to coordinate multiple, interdisciplinary tasks in order to achieve a common objective.
- Reinforcement of specific knowledge from other courses through practice and reflection in an action-oriented setting.
- Enhanced team working skills.

課程大綱

1. The overall Systematic Innovation Processes
2. Development process & organization
3. Product Planning
4. Identifying Customer needs
5. Product Specifications
6. CAD software primer (Solid Edge ST2)
7. Concept Generation
8. Concept selection & testing
9. Product architecture
10. Industrial Design

11. Design for Manufacturing & backward design
12. Prototyping & CAD modeling
13. thm of Inventive Problem Solution) (ARIZ-85)
14. 專題製作 (Course Project)

課本 (Required Texts):

- Ulrich, Karl, and Steven Eppinger. Product Design and Development. 4th Ed. McGraw-Hill international Ed. 2008. ISBN: 978-007-125947-7.
- Classnotes. (講義)

參考書 (Optional References):

- 萃智系統性創新上手, Darrell Mann 原著；許棟樑 編譯, 亞卓國際顧問股份有限公司, ISBN 978-986-85795-0-7
- Hands-on Systematic Innovation, Darrel Mann, 2007, ISBN 90-77071-02-4 (Technical version NOT "For business" version.)
- Innovation on Demand: New Product Development Using TRIZ, by Victor Fey & Eugene Rivin, Cambridge University Press, 2005. (www.cambridge.org)

Grading Policy:

Class Participation	20%
Team Assignments	35%
Final Project Presentation	35%
Individual Class Findings	10%