

AT73.06 Product Design and Development 3(2-3)

Rationale

Strategies for responding to a market, product idea, existing products, customer needs, product specifications, functional requirements of the product(s), technical solutions for meeting the functional requirements, decomposition of products into modules for various product-life-cycle reasons, documentation and so on are the important elements of product development. How to consider these elements in a systematic manner, while developing a product, is the focus of this course.

Pre-requisite None

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Textbook: Lecture Notes

(Microsoft windows network/Ise/Srv21503/lectures/AT7306)

Website: <http://stweb.ait.ac.th/~pisut/PDD/PDD.html>

References:

- K.T. Ulrich, and S.D. Eppinger, Product Design and Development, 3rd Edition
McGraw-Hill, 2003
H. W. Stoll, Product Design Methods and Practices, Marcel Dekker, 1999
M. L. Shillito, Advanced QFD Linking Technology to Market and Company
Needs, John Wiley&Sons, 1995

Class Meetings IE106 F 10.00-11.50 am

Lab Sessions IE106 F 1.00-4.00 pm

Grading System

- Project I 15%
- Project II 40%
- Exam I 15%
- Exam II 15%
- Assignments 10%
- Quizzes 5%

Journals

- Rapid Prototyping Journal
- Journal of Engineering Design
- Journal of Mechanical Design
- Machine Design
- Concurrent Engineering: Research and Applications
- WIPO Journal of IP in Asia and Pacific
- CIRP Annals

Tentative Schedule for January 2007			
Meeting #	Date	Topics	Comments
1	12-Jan	Introduction	
2	19-Jan	Product Development Strategies	
		Development Processes and Organizations	
	22-Jan	-	submit 2 literature review topics
	26-Jan	no lecture	I'll be in HMC
3	2-Feb	Identifying Customer Needs	submit the 1st review report
4	9-Feb	Identifying Customer Needs	
5	16-Feb	Establishing Product Specifications	Literature Review Presentation
6	23-Feb	QFD/COPC	submit the 2nd review report
7	2-Mar	Concept Generation	Literature Review Presentation
		Concept Selection	
	9-Mar	no lecture	Exam I
	16-Mar	no lecture	I'll be in HMC
		-	submit the Project I report
8	23-Mar	Exam Review	Project I Presentation
		Process Driven Design	
9	30-Mar	Product Architecture	Project II Progress Presentation
10*	4-Apr	Industrial Design	Afternoon
	6-Apr	no lecture	Holiday
	13-Apr	no lecture	Holiday
11	20-Apr	Design for manufacturing	Morning
12		Prototyping	Afternoon
13	27-Apr	Economics of Product Development Projects	
	2-May	-	submit Project II report
14	4-May	no lecture	Project II Presentation
			Project II Demonstration