

ES966-10 Product Design and Development Management

21/22

Department

WMG

Level

Taught Postgraduate Level

Module leader

John Waller

Credit value

10

Module duration

1 week

Assessment

Multiple

Study locations

University of Warwick main campus, Coventry Primary

Chulalongkorn University, Thailand

Eastern Mediterranean University, North Cyprus

Hong Kong Polytechnic University, Hong Kong

Singapore Institute of Management, Singapore

Description

Introductory description

Innovation and introduction of new products to the market is one of the fundamental processes in industry. Design and development and introduction of new products is hence the key to renewal and regeneration of industry and the long term competitiveness and survival of manufacturing companies.

Intensification of competition, rapidly changing technologies and shorter product life cycles, require an integrated approach to management of product development in order to create better quality products with enhanced capabilities, at attractive prices with compressed time to market cycles. Today customers often buy products without making a conscious distinction between tangible product, service or brand.

This module concentrates on the management of the processes of product design, development, and introduction as an integrated whole from ideas and concept stage to customer, and in service.

Module aims

Identifying and defining the role of product design and development process in manufacturing industry.

Defining the components of product design and development processes and their relationships from concept to customer.

Defining the design management process and how innovation can be successfully brought to the market place to satisfy customers in an effective manner.

Undertaking a methodical approach to the management of product development.

Differentiating between the important methods, technologies, latest trends, tools and techniques of product design and development and how they can be effectively utilised.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Product development process

Effective Design Management

Lean New Product Introduction

The relationship of tangible product and brand

Management of creativity

Concurrent Engineering

Organisation for effective product design and development

Design protection and intellectual property rights

Case study

Tools, Techniques, and Technologies including;

Concept generation and Selection

Design for Assembly/Manufacture

Life Cycle Costing and Design to Cost

Design Validation

Industrial Experiences

User / Customer View

Innovative Products

Learning outcomes

By the end of the module, students should be able to:

- Identifying and defining the role of product design and development process in manufacturing industry
- Comprehensive understanding of the components of product design and development processes, including important methods, technologies, latest trends, tools and techniques, and interpreting their relationships from concept to customer.
- Critically assessing approaches to the management of product development and creating and updating design management processes.
- Applying innovation in product management to satisfy customers in an effective manner

Indicative reading list

Creating innovative products using total design: the living legacy of Stuart Pugh
Book by Pugh, Stuart; Clausing, Don; Andrade, Ron c1996 - ISBN 0201634856

Effective product-to-market management: a quality issue
Book by Vorstman, H. R.; Vorstman, H. R. 1993 - ISBN 0130437875

Product design and development
Book by Ulrich, Karl T.; Eppinger, Steven D. 2012 - ISBN 9780073404776

Revolutionizing product development: quantum leaps in speed, efficiency, and quality
Book by Wheelwright, Steven C.; Clark, Kim B. c1992 - ISBN 0029055156

World-class new product development: benchmarking best practices of agile manufacturers
Book by Dimancescu, Dan; Dwenger, Kemp; American Management Association c1996 - ISBN 0814403115,

Inspiration: Capturing the creative potential of your organization
Book by Ind, Nicholas; Watt, Cameron 2004 - ISBN 0230510884

[View reading list on Talis Aspire](#)

Subject specific skills

Lean Thinking, New product Introduction Process design, Project Management, design idea generation, selection and management.

Transferable skills

Communication, organization, teamwork, leadership

Study

Study time

| Type | Required |
|------------|--|
| Lectures | 12 sessions of 1 hour 30 minutes (18%) |
| Seminars | 12 sessions of 1 hour 30 minutes (18%) |
| Assessment | 64 hours (64%) |
| Total | 100 hours |

Private study description

No private study requirements defined for this module.

Costs

No further costs have been identified for this module.

Assessment

You must pass all assessment components to pass the module.

Assessment group A2

| | Weighting | Study time |
|--|------------------|-------------------|
| Assessed work as specified by department | 80% | 60 hours |
| Teams-based In-module Case Study | 20% | 4 hours |

Assessment group R1

| | Weighting | Study time |
|--|------------------|-------------------|
| Assessed work as specified by department | 100% | |

Feedback on assessment

Individual feedback sheet for each student providing feedback on the written assignment

Availability

Courses

This module is Optional for:

- Year 1 of TESS-H1ZW Postgraduate Taught Programme and Project Management
- TESS-H7PT Postgraduate Taught Programme and Project Management (Hong Kong)
 - Year 1 of H7PT Programme and Project Management (Hong Kong)
 - Year 1 of H7PT Programme and Project Management (Hong Kong)

This module is Core option list B for:

- Year 1 of TESS-H1PT Postgraduate Taught Engineering Business Management (Awarded Jointly with Hong Kong Polytechnic Uni)
- Year 1 of TESS-H7PX Postgraduate Taught Engineering Business Management (Cyprus)

This module is Core option list C for:

- Year 1 of TWMS-H7BF Postgraduate Supply Chain and Logistics Management (Hong Kong)
- Year 1 of TWMS-H7BG Postgraduate Supply Chain and Logistics Management (awarded jointly with Hong Kong Polytechnic University)
- Year 1 of TWMS-H1Y6 Postgraduate Taught Supply Chain and Logistics Management (Cyprus)
- Year 1 of TESS-H7PE Postgraduate Taught Supply Chain and Logistics Management (Overseas and Self-Financing)
- Year 1 of TWMS-H7A1 Postgraduate Taught Supply Chain and Logistics Management (Singapore)
- Year 1 of TESS-H7PN Postgraduate Taught Supply Chain and Logistics Management (Thailand)

This module is Option list A for:

- Year 1 of TESS-H1PU Postgraduate Taught International Technology Management
- Year 1 of TESS-H6C4 Postgraduate Taught International Technology Management (Hong Kong)

This module is Option list B for:

- Year 1 of TESS-H1P2 Postgraduate Award in Engineering Business Management
- Year 1 of TESS-H1X0 Postgraduate Award in Taught Engineering Business Management (Hong Kong)
- Year 1 of TESA-H1P7 Postgraduate Taught Engineering Business Management
- Year 1 of TESS-H1P1 Postgraduate Taught Engineering Business Management
- Year 1 of TESS-H1P3 Postgraduate Taught Engineering Business Management (Hong Kong) Warwick Award
- Year 1 of TESS-H1PS Postgraduate Taught Engineering Business Management (Singapore)
- Year 1 of TESS-H1PI Postgraduate Taught Engineering Business Management (Thailand)
- Year 1 of TESS-H1X6 Postgraduate Taught Programme and Project Management
- Year 1 of TWMS-H1Y8 Postgraduate Taught Service Management and Design
- Year 1 of TWMS-H1Y9 Postgraduate Taught Service Management and Design (Hong Kong)

This module is Option list C for:

- Year 1 of TWMA-H1NB Postgraduate International Trade, Strategy and Operations
- Year 1 of TWMS-H7BE Postgraduate Service Management and Design (Thailand)
- Year 1 of TWMS-H7A5 Postgraduate Taught Programme and Project Management (China)
- Year 1 of TWMS-H7B4 Postgraduate Taught Programme and Project Management (Singapore)
- Year 1 of TESA-H7PD Postgraduate Taught Supply Chain and Logistics Management (Home Fees)