MSc Module Outline

PRODUCT DESIGN & DEVELOPMENT MANAGEMENT (modified version)

INTRODUCTION
Innovation and introduction of new products with intellectual property rights (IPR) to the market are two of the fundamental processes in industry. Design and development and introduction of new products with IPR are hence the keys to renewal and regeneration of industry and the long-term competitiveness and survival of manufacturing companies or engineering businesses.

Intensification of competition, rapidly changing technologies and shorter product life cycles, require an integrated approach to management from patent research to product design and development in order to create new quality products with IPR, with enhanced capabilities, at attractive prices with compressed time to market cycles.

This module concentrates on the management of the processes from Patent Research to product design, development, and introduces an integrated approach from ideas and concept stage to customer, and in service.

OBJECTIVES
Upon completion participants will be capable of:

- Identifying and defining the role of patent research and product design and development process in manufacturing industry.
- Defining the components of patent research product design and development processes and their relationships from concept to customer.
- Defining the patent research and product 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 patent research and product development.
- Differentiating between the important methods, technologies, latest trends, tools and techniques of patent research product design and development and how they can be effectively utilised.

CONTENTS

- Patent Research and Product development process
- Patent, Design, Copyright, Trade Marks and other intellectual property rights protection
- Effective Patent Research and Design Management
- New Product Introduction
- The relationship of tangible product and IPR
- Management of creativity and innovation
- Reverse Engineering
- Concurrent Engineering
- Organisation for effective Patent Research product design and development
- 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
- Innovative Products with Intellectual Property Rights (IPR)

DURATION: 5 days