



Module Specification

Product Design and Development

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Part 1: Information

Module title: Product Design and Development

Module code: UFMFSQ-15-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Engineering Design & Mathematics

Partner institutions: None

Field: Engineering, Design and Mathematics

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Innovation and introduction of new products to the market is one of the fundamental processes in industry. This module covers modern tools and methods for product design and development to enable the introduction of new innovative products to the market. 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.

Features: Not applicable

Educational aims: See Learning Outcomes.

Outline syllabus: Topics include product development process, effective design management, customer needs identification, concept generation and selection, product architecture, industrial design, concurrent engineering, design for assembly/manufacture, life cycle costing and design to cost, design validation, and innovative products.

Part 3: Teaching and learning methods

Teaching and learning methods: The module employs cases and hands-on exercises to reinforce the key ideas.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Identify and analyse the role of product design and development process in manufacturing industry

MO2 Define the components of product design and development processes and their relationships from concept to customer

MO3 Evaluate the design management process and how innovation can be successfully brought to the market place to satisfy customers in an effective manner

MO4 Undertake a methodical approach to the management of product development

MO5 Differentiate between the important methods, technologies, latest trends, tools and techniques of product design and development and how they can be effectively utilised

MO6 Carry out cost and benefit analysis through various cost models

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 115 hours

Face-to-face learning = 35 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link

Part 4: Assessment

Assessment strategy: The assessment for this module is a project in which students conceive, design and prototype a physical product.

Students are expected to work on an individual report of 2500 words in length to evaluate the theoretical concepts encountered within the module and apply them to a real-world problem.

The referred assignment will involve a reworking of the original report based on the feedback received from the initial submission. The length of the report is 2500 words.

Assessment tasks:

Report (First Sit)

Description: Individual report (2500 words)

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4, MO5, MO6

Report (Resit)

Description: Individual report (2500 words)

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested:

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Engineering Management [GCET] MSc 2023-24

Engineering Management [Frenchay] MSc 2023-24

Engineering Management [Frenchay] MSc 2023-24

Engineering Management [GCET] MSc 2023-24

Engineering Management [Frenchay] MSc 2022-23

Engineering Management [GCET] MSc 2022-23