

Liverpool John Moores University

Title: Commercial Product & Business Development
Status: Definitive
Code: **5098ENG** (117171)
Version Start Date: 01-08-2012

Owning School/Faculty: Engineering
Teaching School/Faculty: Engineering

Team	Leader
Kevin Bains-Johnston	Y
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Academic Level: FHEQ5 **Credit Value:** 36.00 **Total Delivered Hours:** 96.00

Total Learning Hours: 360 **Private Study:** 264

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	36.000
Practical	24.000
Tutorial	12.000
Workshop	24.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Rpt		30.0	
Artefacts	Art		35.0	
Presentation	Pres		35.0	

Aims

The module provides a directed, but independent learning experience that will prepare students for their final year project. It aims to promote invention and creativity and is also intended to allow the student to explore and investigate a topic of particular interest to the student. It will allow students to develop their practical

design skills and exposes them to the latest product design issues and methods that are driving social and economic change. It will also enable the student to develop skills associated with developing a new product into a feasible business proposal.

Learning Outcomes

After completing the module the student should be able to:

- LO1 Identify, conceptualize and plan a supervised, but self generated design project
- LO2 Generate conceptual ideas based on a specific design brief / specification and develop a suitable design solution from a range of ideas
- LO3 Develop a range of models and prototypes to test, evaluate and present a design solution
- LO4 Research a potential business opportunity to formulate and justify the development of a product using secondary and primary data and taking into account market demands.
- LO5 Apply appropriate problem solving and decision making techniques to consider commercial and economic constraints.
- LO6 Develop and present a business plan

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Report	LO 1	LO 2	
Artefact	LO 3		
Presentation	LO 4	LO 5	LO 6

Outline Syllabus

Design management: How the design function sits within the organisational structure. BS7000 Design management. Quality functional analysis. Reverse engineering and re-design; the design process; design research / needs recognition; design management; problem definition stage; problem statement; design brief; design specifications / BS7373; ideation loop; design scheme selection; embodiment design; product configuration and architecture; make / buy decisions; material selection.

Quality of design: Quality assurance; ISO BS 9001; Technical risk management; FMECA

Conceptual design: Rendered freehand persuasive sketching, mock-ups from paper, card, foam, clay, wood, metal etc, rapid prototypes.

Embodiment design: Ashby material selection, charts, other material selection considerations, process/ production considerations, standard design components, product testing and analysis. Optimise and complete design form and definitive layout.

Design methods / issues: Design for manufacture / assembly; design for plastic injection moulding, casting, machining and fabrication. Design architecture, modular, Integrated spatial constraints, configuration and parametrics.

Design Ethics: Principles of good design; user centred design; inclusive design; design for security; sustainable design. Form Design: Human factors / ergonomics; aesthetics; branding and styling; customerisation; emotional / experience design.

Business Development: Business strategy and planning including costings, innovation funnel, validating and exploiting IPR, business liability and insurance.

Key Skills:

Presenting work in a professional manner, report writing, problem solving, critical analysis, research methods, data collection, presenting data, analysis and interpretation of data, referencing correctly. Group working skills, research skills, creative thinking and decision making, communication skills, financial management skills, project management skills

Learning Activities

This is a practical module incorporating lectures and workshops that will give the students the experience of the complex issues faced by designers developing commercial products and businesses. It is delivered in two integrated sections: Within the product development section individual students will identify, conceptualise and develop a commercial product. In the business development section students will be formed into groups and encouraged to work co-operatively to produce a fully researched and structured business plan of a chosen product idea. This practical experience will be backed up with a range of lectures covering case studies of modern examples of good design and management principles to inspire the students. This module will culminate in a structured design week, in both semesters, where students will focus on the development of their individual design project and group business proposal.

References

Course Material	Book
Author	Norman, D. A
Publishing Year	2002
Title	The Design of Everyday Things
Subtitle	
Edition	

Publisher	Basic Books Inc
ISBN	10: 0465067107

Course Material	Book
Author	Norman, D. A
Publishing Year	2005
Title	Emotional Design :Why We Love (or Hate) Everyday Things
Subtitle	
Edition	
Publisher	Basic Books Inc
ISBN	10: 0465051367

Course Material	Book
Author	Lucci, R; Orlandi, P; Orlandini
Publishing Year	1989
Title	Product Design Models
Subtitle	
Edition	
Publisher	John Wiley & Sons Inc
ISBN	10: 0442206542

Course Material	Book
Author	Eisenman, S
Publishing Year	2006
Title	Building Design Portfolios: Innovative Concepts for Presenting Your Work
Subtitle	
Edition	
Publisher	Rockport Publishers Inc
ISBN	10: 1592532233

Course Material	Book
Author	Bruce, M; Cooper, R; Wootton, A. B
Publishing Year	2000
Title	Creative Product Design: A Practical Guide to Requirements Capture Management
Subtitle	
Edition	
Publisher	John Wiley & Sons
ISBN	10: 0471987204

Course Material	Book
Author	Barkley B. T
Publishing Year	2007
Title	Project Management in New Product Development
Subtitle	

Edition	
Publisher	McGraw-Hill Professional
ISBN	10: 0071496726

Course Material	Book
Author	Stokes D & Wilson N
Publishing Year	2006
Title	Small Business and Entrepreneurship
Subtitle	
Edition	6th
Publisher	
ISBN	

Course Material	Book
Author	Boddy D
Publishing Year	2008
Title	Management, an Introduction
Subtitle	
Edition	
Publisher	Prentice Hall
ISBN	

Course Material	Book
Author	Mullins, L.J
Publishing Year	2007
Title	Management and Organisational Behaviour
Subtitle	
Edition	
Publisher	Prentice Hall
ISBN	

Notes

This module aims to provide the student with a broad view of multi-disciplinary nature of product development. There is individual and group elements to the coursework. This will culminate in planned activities within the design weeks and a final design show where students will present their design solutions.