

Product Design and Presentation

Module Information

2022.01, Approved

Summary Information

Module Code	5162PDE
Formal Module Title	Product Design and Presentation
Owning School	Engineering
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Engineering
Engineering

Learning Methods

Learning Method Type	Hours
Lecture	11
Tutorial	33

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	Introduce students to design theories on the conceptualisation of ideas and aesthetic sensibilities through the generation of traditional and 3D computer aided graphical techniques.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Conduct visual research and develop a 3d rendered model
MLO2	2	Understand how materials, colour and texture are applied in creating a persuasive graphic presentation of a product.
MLO3	3	Create a high-quality physical model

Module Content

Outline Syllabus	Awareness of materials, texture and colour. The module encourages the students to visualise and present concepts through computer-aided approaches to a professional level.3D SoftwareCommercial and open source software for modelling and rendering 3D scenes.Import and export file types and associated requirements. Material types and parametersHow materials work; understanding maps and materials; materials and material libraries; managing materials. Standard materials; multi/sub-object materials; opacity, bump, and reflection mapping; mental ray shaders and materials; arch & design materials; ProMaterials; other material types; creating a decal texture.Mapping coordinates and scaleMapping coordinates; mapping scale; spline mapping.LightingLocal vs. global illumination; choosing a lighting strategy; fundamentals of standard lighting; types of standard lights; shadow types; photometric light objects; exposure control; daylight lighting.Rendering Fundamentals of mental ray; mental ray interior rendering; controlling mental ray quality; mental ray proxies; iterative rendering; single vs. double-sided rendering; camera parameters; background images; the print size wizard; selected rendering options; rendering pre-sets.Physical modellingTraditional model making is one of the main activities to which a product designer dedicates their time. A physical model is both a device for speculative enquiry and a tool for conceptualisation to solve design and manufacturing issues. It is also an instrument to illustrate and describe projects to clients or final users. It is therefore important to develop the knowledge and abilities to develop models appropriate for different purposes.
Module Overview	This module will introduce you to design theories on the conceptualisation of ideas and aesthetic sensibilities through the generation of traditional and 3D computer aided graphical techniques.
Additional Information	This module is delivered using a variety methods including lectures and workshop tutorials. The module will be delivered from a product design perspective.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Portfolio	Poster, Process Book and Model	100	0	MLO1, MLO2, MLO3

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Fang Bin Guo	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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