**Liverpool** John Moores University

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|---|---|
| Title: | Product Design And Presentation |
| Status: | Definitive |
| Code: | **5162PDE** (121750) |
| Version Start Date: | 01-08-2021 |
| Owning School/Faculty: | Engineering |
| Teaching School/Faculty: | Engineering |

| Team | Leader |
|---|---|
| Fang Guo | Y |

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| **Academic Level:** | FHEQ5 | **Credit Value:** | 20 | **Total Delivered Hours:** | 44 |
| **Total Learning Hours:** | 200 | **Private Study:** | 156 | | |

**Delivery Options**
Course typically offered: Semester 1

| Component | Contact Hours |
|---|---|
| Lecture | 11 |
| Tutorial | 33 |

**Grading Basis:** 40 %

**Assessment Details**

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|---|---|---|---|---|
| Portfolio | Port | Poster/process book/model | 100 | |

**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.*

**Learning Outcomes**

After completing the module the student should be able to:

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

**Learning Outcomes of Assessments**

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

| | | | |
|---|---|---|---|
| Poster, Process Book and Model | 1 | 2 | 3 |

**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 Software*
*Commercial and open source software for modelling and rendering 3D scenes. Import and export file types and associated requirements.*

*Material types and parameters*
*How 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 scale*
*Mapping coordinates; mapping scale; spline mapping.*

*Lighting*
*Local 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 modelling*
*Traditional 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.*

## Learning Activities

This module will be delivered through an integrated series of lectures and tutorialised practical sessions; of which 50% will be synchronous online and 50% face to face. The learning activities are to be student focused and develop the students design knowledge through experiential learning.

## Notes

This module is delivered using a variety methods including lectures and workshop tutorials. The module will be delivered from a product design perspective.