

Liverpool John Moores University

Title: Design Visualisation
Status: Definitive
Code: **4002PDE** (120077)
Version Start Date: 01-08-2016

Owning School/Faculty: Electronics and Electrical Engineering
Teaching School/Faculty: Electronics and Electrical Engineering

Team	Leader
Fang Guo	Y

Academic Level: FHEQ4
Credit Value: 20
Total Delivered Hours: 72
Total Learning Hours: 200
Private Study: 128

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Practical	24
Tutorial	24

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Test	Test	In-class traditional sketching test	50	
Portfolio	Portfolio	Digital sketching Portfolio	50	

Aims

Develop fundamental sketching, rendering and modelling skills

Learning Outcomes

After completing the module the student should be able to:

- 1 Produce rendered freehand sketches of a range of products indicating their design intent
- 2 Produce digital rendered images of a range of products
- 3 Produce low fidelity physical models

Learning Outcomes of Assessments

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

Inclass traditional sketchtest	1	2
Digital sketching portfolio	3	

Outline Syllabus

Module introduction

Module guide; aims; learning outcomes; assessment and marking schemes. Outline syllabus; module timetable and student feedback. Availability of student version of PhotoShop; minimum system requirements e.g. hard disk space, memory required, processor, video card.

Freehand sketching:

Sketching tools, preparation. line types, arches, circles and ellipses, proportion and scale, one and two point projection, parallel projection, isometric projection. Shading and colour. Multi view sketches, construction lines, auxiliary and section views, annotations. Line weight, material, colour, texture, lighting, shadows, reflections, rendering, composition and backgrounds.

Computer aided 2D sketching:

Commercial and open source software for digital sketching and rendering 2D scenes. Underlying concepts e.g.: vector versus raster graphics; compression; file size versus quality; file formats;.PSD;.JPEG; .PNG; etc.

Composition: Creating an environment. Focal point; overlapping; negative space (or shape); lines; balance; contrast; proportion. Position of lighting, resultant shadows, reflections and rendering of materials and textures.

Compositing: Colour spaces; colour remapping; colour correcting; image manipulation; mattes; image-matte relationship.

Digital drawing: Basic shapes and construction; lines; contours; hatching; colour; texture; rough and refined line work; scanning; digitising the drawing; image manipulation; cropping; sizing; filtering; etc.

Tools: Selection tools; drawing tools; rectangular marquee; move; crop; brush; eraser; paint; bucket; gradient tool; pen tool; etc.

Other tools: Copy; merged; stroke; transform; image; size; etc.

Layers: Background; general layer; text Layer; group; etc.

Traditional hand modelling:

Selection of modelling materials and techniques to produce physical hand sketch models. The emphasis is on learning skills not in the narrow sense but as a process

of experimentation, development and adaptation – requiring curiosity, a sense of purpose and awareness of demands. Within the course the skills are not taught or assessed separately but are seen as making an essential contribution to understanding as well as production, and are judged on their appropriate use, creativity and engagement not just as technical proficiency.

Learning Activities

This module will be delivered through an integrated series of lectures, tutorials, practical sessions, guided design activities and case studies. 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, seminars, tutorials and practical sessions. The module will be delivered from a engineering and product design perspective.