

Summary Information

| | |
|---------------------|---------------------------------|
| Module Code | 5262PDE |
| Formal Module Title | Product Design and Presentation |
| Owning School | Engineering |
| Career | Undergraduate |
| Credits | 20 |
| Academic level | FHEQ Level 5 |
| Grading Schema | 40 |

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 3D computer aided rendered and physical modelling techniques. |
|------|---|

After completing the module the student should be able to:

Learning Outcomes

| Code | Number | Description |
|------|--------|---|
| MLO1 | 1 | Apply visual research and develop a 3d rendered model |

| | | |
|------|---|---|
| MLO2 | 2 | Understand how materials, colour, texture and lighting are applied in creating a persuasive graphic presentation of a product |
| MLO3 | 3 | Create a high-quality physical model |

Module Content

| | |
|------------------------|---|
| Outline Syllabus | <p>3D Software: Visualise and present concepts through commercial and open source software for modelling and rendering 3D scenes. Import and export file types and associated requirements. Material types and parameters: Awareness of materials, texture and colour. 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.</p> |
| Module Overview | <p>Aims Introduce students to design theories on the conceptualisation of ideas and aesthetic sensibilities through the generation of 3D computer aided rendered and physical modelling techniques.</p> <p>Learning Outcomes After completing the module the student should be able to: 1 Apply visual research and develop a 3d rendered model. 2 Understand how materials, colour, texture and lighting are applied in creating a persuasive graphic presentation of a product. 3 Create a high-quality physical model.</p> |
| Additional Information | <p>This module includes content, which relates to the following UN Sustainable Development Goals SDG04 – this module develops relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.</p> |

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 |
|--------------|--------------------------|-----------|
|--------------|--------------------------|-----------|