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Title: Model Making & Engineering Practice
Status: Definitive
Code: **4166PDE** (121748)
Version Start Date: 01-08-2021

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

Team	Leader
Adam Papworth	Y

Academic Level: FHEQ4 **Credit Value:** 20 **Total Delivered Hours:** 80
Total Learning Hours: 200 **Private Study:** 120

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	11
Practical	33
Workshop	36

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Artefacts	Models	Workshop Portfolio	100	

Aims

Introduce design modelling and provide the practical skills necessary to produce physical 3D models.

Learning Outcomes

After completing the module the student should be able to:

- 1 Create a model by hand using basic materials to a quality finish.
- 2 Demonstrate proficiency in use of basic machine tools to produce a model.
- 3 Recognise industry standard safe codes of practice

Learning Outcomes of Assessments

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

A portfolio of models	1	2	3
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Outline Syllabus

This module introduces the student to the skills needed for model making. It offers instruction and technical support to produce models in different materials. It also enables the practice of accurate measuring and transferring of measurements between different scales. This exploration of a product through 3D physical modelling also introduces the students to good workshop practice. The module will be taught through practical workshops in the studio and be supported by lectures and seminars. On completion of the module, the students will be able to:

- *Understand manual methods of model making using different materials (e.g. wood, clay and polymers)*
- *Identify material properties and select the appropriate modelling method*
- *Recognise how form and texture influences a model's design approach*
- *Use rapid prototyping and machine technologies in the creation of prototype models*
- *Apply basic human factor / ergonomics knowledge to a prototype model-making process*

Health and safety:

General workshop practice. Health and safety at work act; risk assessment; COSHH.

Basic engineering workshop procedures and processes:

Reading engineering drawings. Practical workshop skills. Tolerances & fits.

Measurement and inspection.

Learning Activities

This is a studio based, practical and theoretical module where students are taught the basic modelling skills and knowledge required for their programme of study. 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 practical sessions. The module will be delivered from a engineering and product design perspective.