

Module Title:	Ergonomics and Model Making	
Language of Instruction:	English	
Credits:	5	
NFQ Level:	6	
Module Delivered In	2 programme(s)	
Teaching & Learning Strategies:	The learner is immersed in a range of problem-solving activities, to investigate and evaluate design. The holistic, student-centred studio-based approach, facilitated by faculty, is intended to negotiate, facilitate and guide learner engagement and scaffold a deep-learning using the following strategies: • Lectures, • Studio based learning, • Peer-to-peer group/team learning, • E-Learning, • Presentation, • Workshop, • Facilitated peer-to-peer critique/review, • Self-directed independent learning,	
Module Aim:	The aim of the module is to introduce the learner to the alignment of design workshop with ergonomics & testing. It is through this process that the learner will link the importance of 3D product testing to the development of human centred design outputs. Learners will develop skills to assess feedback from ergonomic models, extrapolate conclusions and iterate further ergonomic models based on these conclusions. Learners will develop a representational model of their own design and engage in model planning phase to allow for focused engagement with the modelling process. Introduction to additional manufacturing techniques while focusing on assemble through fixtures and fittings. Learners will also begin to evaluate their models and record exemplary work for archiving in portfolio format.	
Learning Outcomes		
On successful completion of this module the learner should be able to:		
LO1	To demonstrate skills of planning, production and testing of ergonomic models	
LO2	To produce a 3D representational model of your own design	
LO3	To develop the skills of flexibility and adaptability in situation to require bespoke approach	
LO4	To demonstrate the ability to think imaginatively and differently	
Pre-requisite learning		
Module Recommendations		
This is prior learning (or a practical skill) that is recommended before enrolment in this module.		
No recommendations listed		
Incompatible Modules		
These are modules which have learning outcomes that are too similar to the learning outcomes of this module.		
No incompatible modules listed		
Co-requisite Modules		
6841	DSGN H1429	Design Introduction
Requirements		
This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.		
No requirements listed		

Module Content & Assessment

Indicative Content

Introduction to Ergonomics

Learners are introduced to the principles of ergonomics and its application to design (anthropometrics). Through lectures and group work, learners will engage in activities to assess ergonomic issues. Learners will be introduced to measuring technique and methods of recording ergonomic testing.

Application of Ergonomic Data to Product Design

Running concurrently with the ergonomic design project in the design studio module, learners will assess the need for ergonomic testing and plan the production of a test model. Learners will engage in a testing evaluation of their design and extrapolate conclusions. These conclusions will be implemented into the final design.

Model Making Skills Development

Introduction of additional model making techniques, lathe turning and silicon moulding. These techniques will be delivered through a standalone group practical,

Portfolio Project

Learner will engage in a design sprint over a few days with the aim of getting to a concept in a short timeframe. The project will be a group project involving Y2 or Y3 of the design programmes and an international academic collaborator (Auburn university)

Production of Representation Model from Own Design

Learners will engage with a detailed planning phase exploring all model making options and produce a formal plan. This plan will provide the schedule to produce a representational model. The model will be finished to a high level building on the skills learned in the workshop practice module.

Workshop/Materials (Resource)

A dedicated space to allow learners to test, evaluate and represent the application of their research through 3D physical workshop made models. Resourcing of a workshop space include machinery, tools and materials. Materials such as modelling foam, MDF, Jelutong, Cardboard, foam board are all essential to investigation of developing a design solution. The design workshop is limited to a capacity of 18 under Health and Safety. In the event a class group exceeds 18 the class will be broken into two groups each receiving full allocation of contact hours.

Technician (Resource)

A dedicated design technician to support, demonstrate and maintain equipment while auditing and stocking of materials for the design workshop and studio practice

Assessment Breakdown

	%
Project	100.00%

No Continuous Assessment

Project

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	Verbal presentation, focusing on three key projects. Learners will present their models and discuss their learning for each. The models will be submitted for review. At the conclusion of each project stage students will undergo a design review to receive formative feedback in a timely manner before assessment P1 Ergonomic Modelling P2 Modelling Techniques group project P3 Production of a representation model of own design	1,2,3,4	80.00	Week 29
Project	Submission of a portfolio showing content and development over the year across the six key learning streams. This deliverable is driven by the Design Studio module but must contain examples of exemplary models developed as part of this module. It will be a joint assessment with the design studio module.	3,4	20.00	Week 30

No Practical

No End of Module Formal Examination

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Studio Based Learning	Every Week	4.00
Independent Learning	Every Week	5.00
Total Hours		9.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_DHPDI_B	Bachelor of Arts (Honours) in Product Design Innovation	2	Mandatory
CW_DHIDE_D	Bachelor of Arts in Design	2	Mandatory