DEVL: Working Prototypes

Module Title:	Working Prototypes
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 collaborative, problem-solving activities, to investigate and evaluate design solutions. 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, • Workshop, • Facilitated peer-to-peer critique/review, • Self-directed independent learning,

Module Aim:	The aim of this module is to introduce learners to detailing in model making for design. This module builds on the skills learned in workshop practice and ergonomics & model making (year 1). The aim of the module is to introduce new methods of modelling to increase detail and functionality. Learners will engage with opportunities, materials & safe practice for traditional modelmaking technologies, skills and deliver a model using these methods. Through this they will build on their iterative skills of modelling and explore opportunities to use models as a decision making tool. Learners will engage in applied ergonomic testing to fully synthesise with the design process and produce prototypes and final appearance models to a high standard. Using working prototypes to validate design concepts and working components. Learners will also be able to source components, fixtures, mechanisms and materials that will enhance the detailing and appearance on their models and working prototypes.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	To apply relevant detailing to model making both for ergonomic testing models and final appearence models
LO2	To plan modelling and source components specific to model detailling
LO3	To produce a detailed representational model demonstrating the use of new skills
LO4	Engage in a review process of module content and deliverable and reflect on future development

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		
6850	DSGN H2429	Design
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*		
No requirements listed		

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Module Content & Assessment

Indicative Content
Iterative Modelling for Form Generation Through synthesis the design module learners will explore form and aesthetic through iterative modelling. This will build on previous foam modelling projects where finer details are explored and assessed.
Applied Ergonomics Modelling In groups learners will plan, produce and assess ergonomic prototype models generated to answer questions in the design module. The model type will be governed by the focus of the design module
Industry Driven Representational Model Learners will develop the skills and knowledge to source and acquire component parts that will increase the detail of final models. Learners will build on previous representational model and increase the focus on the detailing to lift the model to a professional standard. This model will be presented to a client (in line with design module) in a way that engages the client in the design on a 3D level.
Laser Cutting Learners will be introduced to laser cutting as a tool to aid in the development of 3D modelling for design. Through lectures and practice based learning they will be walked through the good practice, running and maintenance of the laser cutter. Learners will be made aware of appropriate material use for the machine. Learners will engage in a applied project to allow them run through the process and deliver a product at the conclusion.
Workshop/Materials (Resource) This is 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.
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
Laser Cutter (Resources) A laser cutter for cutting acrylic, paper, card, wood & engraving of anodised alluminium.

Assessment Breakdown	%
Continuous Assessment	100.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Project	High and low fidelity Iterative foam Modelling – exploration of form and aesthetic through iterative foam modelling. Understanding mechanisms and form.	1,2,3	25.00	Week 5
Project	Focused Appearance Model – Dry Assembly Sequence. Production of final appearance model (unpainted) in line with re-design project (studio). Appearance detailing with internal components sourcing and specification.	1,2,3	20.00	Week 10
Project	Sketch Modelling and Prototypes Group project – group planning, production and evaluation of ergonomic models finish & presentation.	1,2,3	15.00	Week 11
Project	Final Appearance Model – Production of final Prototype model with final surface finish and working components.	1,2,3	35.00	Week 14
Reflective Journal	Planning & Management Reflective Practice: reviewing approach, engagement, performance, collaborative style, synthesis with aligned modular elements and identification of future developmental need/s.	2,4	5.00	Week 15

No Project

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		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Studio Based Learning	Every Week	4.00
Independent Learning Time	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	3	Mandatory
CW_DHIDE_D	Bachelor of Arts in Design	3	Mandatory