

Module Title:	Design for Manufacture (studio elective)
Language of Instruction:	English
Credits:	10
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 where design can propose solutions for commercial and social benefit. 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, • Industry/partner collaboration, • E-Learning, • Presentation, • Workshop, • Facilitated peer-to-peer critique/review, • Self-directed independent learning,
Module Aim:	The aim of this module is to guide the learners through a comprehensive range of design projects in a manner which is consistent with the operation of the industrial designer in industry. To encourage the learner to explore their own sense of visual aesthetic and to develop a confidence in their ability to address problem solving with creativity and innovation. To provide the learner with a comprehensive range of presentation skills necessary in the communication of their ideas in Core Design Project studio work and effectively work as a team/group member. To further develop and focus the learner on the product detailing and technical / Engineering drawing skills appropriate to the industrial designer. This module will assist in the further development of component assembly / materials and tolerance specifications. To support learners acquire an applied understanding of project planning processes and to afford the learner opportunity to use processes and tools to identify, evaluate and schedule a plan to execute a design process, and support effective use of available resources.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Answer a design brief by sequentially carrying a project through a comprehensive range of design phases to a final conclusion as experienced by designers in industry.
LO2	Demonstrate a comprehensive range of sketching skills in a manner which is appropriate for data recording and concept communication for the industrial designer.
LO3	Produce G.A.s and Parts specifications appropriate at this level of study.
LO4	Co-operate within a group as a design team member. (Brainstorming etc.)
LO5	Organise and value their project portfolio and engage in a review of skills & deliverable and produce a future development plan
LO6	Describe and apply basic project management process used in design business and product development and select and use appropriate tools to plan and schedule a basic design development plan
Pre-requisite learning	
Module Recommendations <i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules <i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements <i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

Module Content & Assessment

Indicative Content

Design

This comprises up to 3 main Design projects of up to 2-8 week duration with specific ID learning outcomes. Project types will incorporate elements: • Deconstructed Product: sketching of component details/isometric drawing / explosion of assemblies/ rendering surfaces/ GA & part drawing / modelling/company profile. • Ergonomics and anthropometrics: static and dynamic anthropometry, workspace activity. • Large Scale Design - Space/Environment: environmental design / display-exhibition / civic design. • Redesign in Company Style: style interpretation / focus on detailing. • Product-Brand Comparison & Presentation of Conclusions, • Ergonomic Interface: user analysis /control & display / post design evaluation. • Futures, Blue sky, Style: • Environmental / Efficiency in Design: sustainability, component recycling / assembly / materials. • Packaging: Complex/Critical Support Packaging etc. • New technology: Projects should be structured to accommodate where possible as many of the Professional Practice components as possible. • Group project work. • Guidance or external lecturer input / sponsorship • Phased submission.

Project Planning

Principles of project planning process, planning tools, work breakdown structure, time-flow, gantt charting, critical path, milestones. Introduction to project scoping, establishing and prioritising aims & objectives, identifying resources, quality control, risk & mitigation. Introduction to working in and managing teams, collaborative planning tools. Introduction to time, resource & budget planning, planning process review, and reporting.

Design Studio (Resource)

A dedicated space designed to allow for studio-based learning. This space is specific to a particular learning group. While used to deliver studio-based education the space is available to accommodate learners outside scheduled/timetabled hours. It provides a safe learner-driven, peer-reviewed environment, supported on a one-to-one basis. The room must also be fitted with good quality projector, document visualisers and sound equipment for delivery of hybrid approaches. It supports the synthesis of parallel concurrent modular knowledge, skills and competency with prior learning & personal aesthetic judgement, to resolve specific design research question/s.

Workshop (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 investigate and develop a design solution.

Computers / plotters / Printing (Resource)

Each learner requires access to studio computers with suitable software used on the Design program. There should be access to printing and plotting facilities in order to complete Design Projects. The room must also be fitted with good quality projector, document visualisers and sound equipment for delivery of hybrid approaches

Prototyping (Resource)

There are a number of prototyping machines used including a laser cutter for cutting acrylic, paper, card, wood & engraving of anodised aluminium. Fusion deposition 3D printer with associated materials

Assessment Breakdown

	%
Continuous Assessment	100.00%

Continuous Assessment

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	Re-Design Project. Consolidation of skills. Unboxing and product / brand analysis. Product repositioning. Technical standards in orthographic specifications. Dimensioning & tolerance and Final Presentation. Individual Project Plan: critical path, work-flow, timeline plan.	1,2,3,5,6	50.00	Week 7
Project	Group Project, Design in House Style. Communications within teams, group dynamics & team management. Group Project Plan: aims & objectives, group contract, assessing resources, WBS, work-flow, timeline plan.	1,2,3,4,5,6	25.00	Week 11
Project	Research Driven project conceptual (blue sky). Individual Project Plan: critical path, work-flow, timeline plan	1,2,5,6	20.00	Week 14
Portfolio	Portfolio: A portfolio of the learners design project work will be submitted at the end of the semester for review. The portfolio will consist of a summary of each of the ID projects undertaken throughout that semester.	1,2,3,4,5	5.00	Week 30

No Project

No Practical

No End of Module Formal Examination

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Studio Based Learning	Every Week	11.00
Independent Learning	Every Week	8.00
Total Hours		19.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_DHPDI_B	Bachelor of Arts (Honours) in Product Design Innovation	3	Elective
CW_DHIDE_D	Bachelor of Arts in Design	3	Elective