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Refer to guidance notes for completion of each section of the specification.

<b>Module Code:</b>	ARD556
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<b>Module Title:</b>	Prototypes and Production 2
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<b>Level:</b>	5	<b>Credit Value:</b>	40
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<b>Cost Centre(s):</b>	GADC	<b>JACS3 code:</b>	W700/100895
		<b>HECoS code:</b>	

<b>Faculty</b>	FAST	<b>Module Leader:</b>	Steve Jarvis
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Scheduled learning and teaching hours	30 hrs
Placement tutor support	0hrs
Supervised learning eg practical classes, workshops	30 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
<b>Total contact hours</b>	<b>60 hrs</b>
Placement / work-based learning	
Guided independent study	340 hrs
<b>Module duration (total hours)</b>	<b>400 hrs</b>

<b>Programme(s) in which to be offered (not including exit awards)</b>	Core	Option
BA(Hons) Product Design	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<b>Pre-requisites</b>
N/A

<b>Office use only</b>	
Initial approval: 08/09/2020	Version no:1
With effect from: 01/09/2022	
Date and details of revision:	Version no:

## Module Aims

The aim of this module is to further develop the skill and expertise of the students in Prototypes and production 1 level 4 module. Throughout this module the students will demonstrate their expertise in prototyping and significant manufacturing techniques that they will need in order to prototype and realise their designs to a professional standard. Students will become well advised in problem solving, design thinking, and the decision-making processes needed to plan appropriate prototypes to suitably communicate design intentions using conceptual drawings, critical analysis and critical reflections.

## Module Learning Outcomes - at the end of this module, students will be able to

1	Analyse, refine and specify appropriate planning, designing, and modelling strategies, based on conceptual ideas and designs produced for this module.
2	Initiate, plan and execute a range of tasks that extend abilities and understanding working with due consideration of limitations and be effective in time management.
3	Exhibit and critically evaluate evidence of safe working practice within a workshop environment in the production of prototypes to a professional standard.
4	Present drawings to communicate design intentions, . Presenting all final work professionally and evaluating fitness for purpose in full

<b>Employability Skills The Wrexham Glyndŵr Graduate</b>	<b>I = included in module content A = included in module assessment N/A = not applicable</b>
<b>CORE ATTRIBUTES</b>	
Engaged	I
Creative	IA
Enterprising	IA
Ethical	IA
<b>KEY ATTITUDES</b>	
Commitment	IA
Curiosity	IA
Resilient	IA
Confidence	IA
Adaptability	IA
<b>PRACTICAL SKILLSETS</b>	
Digital fluency	IA
Organisation	IA
Leadership and team working	I
Critical thinking	IA
Emotional intelligence	I
Communication	IA

**Derogations**

None

**Assessment:****Indicative Assessment Tasks:**

Students will produce coursework that demonstrates their ability to examine, analyse and employ prototyping and production methods and techniques to a professional standard with evidence of planning skills through layout studies.

In assessing the learning outcomes, a variety of factors will be taken into account these will include:

- Critical and theoretical Knowledge
- Conceptual ability
- Visual development skills
- Practical skills and use of production techniques
- • Professional practice

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1-4	Coursework	100

**Learning and Teaching Strategies:**

- Lectures will allow students to examine, analyse and apply CAD software methods and techniques.
- Assignments will enable students to produce a professionally produced product by applying prototyping techniques.
- Technical demonstrations will enable students to acquire the technical skills needed to complete the assignments.
- Tutorial guidance, group critique and student seminars will underpin the student's skill development and understanding of the fabrication process.

**Syllabus outline:**

Following a formal introduction to the module, the student will be aware of the parameters of the assignment and the time frame into which the activity must fit. The expansion of terms of reference that will set the student new challenges for their development through the location of their practice within the context of producing satisfactory prototypes for product design.

This module develops the student's ability to examine, experiment and apply software methods and techniques used in when creating prototypes for their products as well as the physical skills of using equipment to produce prototype products with an emphasis on:

- Project planning,
- presentation skills
- research into the production phase of taking a product to market.

**Indicative Bibliography:****Essential reading:**

Riley, E. and Martinez, S. (2019), *The Art of Digital Fabrication*. Torrance, CA: Constructing Modern Knowledge Press.

Higgins, J. (2006), *101 Creative Problem-Solving Techniques*. Winter Park, Fla.: New Management Pub. Co.

**Other indicative reading**

Armstrong, C. (2018), *The Maker's Field Guide*. [S.l.]: Christopher Armstrong.

Hallgrimsson, B. (2019), *Prototyping and Modelmaking For Product Design*. 2nd ed. London: Laurence King Publishing Ltd.

Baird, N. (2020), *Innovator's Playbook: How to Create Great Products, Services and Experiences That Your Customers Will Love*. Chichester: Wiley Blackwell.

Rodgers, P. and Milton, A. (2011), *Product Design*. London: Laurence King Publishing Ltd.

Cagan, M. (2018), *Inspired: How to Create Tech Products Customers Love*. 2nd ed. Hoboken, NJ: John Wiley & Sons.

**Websites and Publications:**

<https://www.creativebloq.com/computer-arts-magazine>

<https://www.designcouncil.org.uk/>

<https://www.londondesignfestival.com/>

<https://www.creativereview.co.uk/>

<https://www.barbourproductsearch.info/>

<https://www.fabhub.io/>

<https://uxdesign.cc/>

Autodesk: Fusion 360

<https://www.solidworks.com/>

<https://www.vectric.com/>