Module specification

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Module code	ENG793
Module title	Design Thinking and Strategic Innovation
Level	7
Credit value	40
Faculty	FAST
HECoS Code	100048
Cost Code	GAME

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
MSc Innovative Design MSc Innovative Design with Advanced Practice	Core

Pre-requisites

None.

Breakdown of module hours

Learning and teaching hours	42 hrs
Placement tutor support	0 hrs
Supervised learning e.g., practical classes, workshops	0 hrs
Project supervision (level 6 projects and dissertation modules only)	0 hrs
Total active learning and teaching hours	**42** hrs
Placement / work-based learning	0 hrs
Guided independent study	358 hrs
Module duration (total hours)	400 hrs

For office use only	
Initial approval date	22nd Aug 2022
With effect from date	Sept 22
Date and details of revision	
Version number	1

Module aims

- Rethinking design as a strategic tool to achieve innovation

- Explore the types of innovation and how different companies apply them

- Apply the design thinking and the value it can add to the system

- Practice the multiple perspective exploration of challenges and problems

- Practice the various tools to understand the cause and effect of problems, evaluate situation and failure analysis

- Develop prototypes, evaluate, and test solutions

- Explore the strategic application of design inside the organization

- Use different tools to apply and evaluate strategic innovation

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

1	Demonstrate an evaluation of design as a tool to solve problems and achieve innovation for creative products and services
2	Apply critical design thinking to solve problems, value-creation and identify root causes
3	Evaluate the level of strategic innovation and its characteristics for products and services
4	Critically reflect and report on personal performance, group working and project performance.

Assessment

Indicative Assessment Tasks:

This section outlines the type of assessment task the student will be expected to complete as part of the module. More details will be made available in the relevant academic year module handbook.

Assessment One: A group presentation on an innovative engineering product. A specification will be supplied to the group and students will need to develop a product up to preliminary design phase that fully satisfies the brief. A group presentation (30 min) will be given to communicate the design process and final product. The presentation represents 80% of the overall mark.

Assessment Two: An individually prepared report demonstrating their participation in the group project work. This will take the form of a reflective log where students will identify their activities each week and how they worked within the team. Assessment two is a written assignment (1500 words) and represents 20% of the overall mark.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1-3	Presentation	80%
2	4	Written Assignment	20%

Derogations

None

Learning and Teaching Strategies

A series of workshop style lectures with student-led seminars and small group activities. Directed learning using library and internet resources will be facilitated using Moodle and MS Teams. This module will also follow the ALF (Active Learning Framework) guidelines, which will include alternative methods of assessment and a blended approach to delivery, with some theory and software sessions being delivered online (depending on requirements and student experience).

Indicative Syllabus Outline

This module will be delivered over twelve weeks with weekly taught sessions and group practice to introduce the students to design, a tool to achieve strategic innovation, and creative problem-solving. The syllabus outline will include:

- Introduction to design as an operation, tactical process, and strategy tool

- Understand the different types of innovation through examples and case studies

- Identify the role of design thinking (Double Diamond) in solving problems and value-creation

- Explore root-cause of problems and failure analysis

- Prototyping and evaluating solutions

- Assess and apply strategic innovation

- Evaluate and critically evaluate the organization design and innovation levels

Indicative Bibliography:

Essential Reads

N. Cross, *Design Thinking: Understanding How Designers Think and Work.* London: Bloomsbury Visual Arts, 2018.

Other indicative reading

Design Kit, *The Field Guide to Human Centered Design.* New York: IDEO, 2016.

B. Lawson and K. Dorst, *Design Expertise.* Sussex: Routledge, 2013.

K. Best, *The Fundamentals of Design Management.* Lausanne: AVA Academia, 2010.

K. Best, *Design Management Managing Design Strategy, Process, and Implementation.* Switzerland: AVA Publishing SA, 2006.

K. Dorst, *Frame Innovation: Create New Thinking by Design. Cambridge,* MA: MIT Press, 2015.

K. Dorst, 'The Core of "Design Thinking" and its application'. *Design Studies*, 32(6), 521–532, 2011. https://doi.org/10.1016/j.destud.2011.07.006

I. Mootee. *Design Thinking for Strategic Innovation What They Can't Teach You at Business or Design School.* Hoboken, N.J: Wiley, 2013.

S. Lundmark, 'Design project failures: Outcomes and gains of participation in design'. *Design Studies,* 59(SI), 77–94, 2018. https://doi.org/10.1016/j.destud.2017.07.002

R. Davies-Cooper, et al., *The handbook of design management.* English ed. London: Bloomsbury, 2013.

L. Kimbell, *Rethinking design thinking: Part I.* Design and culture, 3(3), 285-306, 2011.

L. Kimbell, *Rethinking design thinking: Part II.* Design and Culture, 4(2), 129-148, 2012.

Plus, various others to be signposted on Moodle.

Employability skills – the Glyndŵr Graduate

Each module and programme is designed to cover core Glyndŵr Graduate Attributes with the aim that each Graduate will leave Glyndŵr having achieved key employability skills as part of their study. The following attributes will be covered within this module either through the content or as part of the assessment. The programme is designed to cover all attributes and each module may cover different areas.

Core Attributes
Engaged
Enterprising
Creative
Ethical

Key Attitudes
Commitment
Curiosity
Confidence
Adaptability

Practical Skillsets
Digital Fluency
Organisation
Leadership and Team working
Critical Thinking
Communication