Module specification

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Module code	COM468
Module title	Design Methodologies
Level	4
Credit value	20
Faculty	FAST
Module Leader	Denise Oram / Julie Mayers
HECoS Code	100373
Cost Code	GACP

Programmes in which module to be offered

Programme title	Is the module core or option for this programme
BSc (Hons) Applied Software Engineering	Core

Pre-requisites

None

Breakdown of module hours

Learning and teaching hours	48 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	48 hrs
Placement / work based learning	0 hrs
Guided independent study	152 hrs
Module duration (total hours)	200 hrs

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Initial approval date	10 Nov 2021
With effect from date	Jan 2022
Date and details of revision	

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Version number	1

Module aims

This module is designed to introduce students to a range of design concepts and methods used within the process of creating various software systems. Students will develop and practice these ideas over a range of scenarios contextualised with the relevant content.

The module will introduce concepts of analysis and design and a range of traditional and contemporary methodologies to enable the student to appreciate the nature of information and its role in the system design, development and implementation process.

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

1	Evaluate a range of tools, techniques and approaches applicable to the development of digital systems.
2	Evaluate the impact of systems design and development in society.
3	Appreciate and assess the concepts of information engineering and system requirements.
4	Describe the interaction between development techniques and design solutions.

Assessment

Indicative Assessment Tasks:
The development of a Portfolio whereby students will be given assessment tasks in tutorials and case study-based coursework (a number of tasks as formative assessment individually graded) to contribute to the portfolio.

Examples:

A group project using a case study and presentation. An individual critical reflection on the systems design and development process and professional approach to practice.

OR

This maybe work the student is occupied in at the workplace, this can contribute to the portfolio and then give a presentation and an individual critical reflection on the systems design and development process and professional approach to practice.

Where practical the assessment will be related / carried out in the workplace.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)
1	1,2,3,4	Portfolio	100%

Derogations

None

Learning and Teaching Strategies

Lectures will deliver key concepts, ideas, theories and examples. Tutorials and workshops (lab sessions) will allow the further exploration of the lectures and use scenarios, exercises, case studies etc to give students the opportunity to investigate, discuss and acquire further subject specific knowledge through both individual and group work.

Self-study exercises and reading are also given.

Indicative Syllabus Outline

- Information engineering and requirements determination processes
- Analysis and design
- Development methodologies (Waterfall, Agile, DevOps)
- Modelling techniques
- Systems design and development processes
- System Implementation, support and security
- Cloud strategy & cloud environments

Indicative Bibliography:

Please note the essential reads and other indicative reading are subject to annual review and update.

Essential Reads

None

Other indicative reading

Rubin, K. (2012) Essential Scrum: A Practical Guide to the Most Popular Agile Process,

Packt Publishing. Addison Wesley, 1st Ed.

Kendall, K.E. and Kendall, J.E. (2019), Systems Analysis and Design. 10th ed. Harlow: Pearson

Reynolds, G. (2014), Principles of Information Systems. 12th ed. Boston: Cengage Learning

Avison, D and Fitzgerald G (2006) Information Systems Development: Methodologies,

techniques and tools (4th Ed.). McGraw Hill

Electronic Resources: via 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
Resilience
Confidence
Adaptability

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