Object-Oriented Systems

Module Information

2022.01, Approved

Summary Information

Module Code	5002SEQR
Formal Module Title	Object-Oriented Systems
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 5
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
LJMU Partner Taught

Partner Teaching Institution

Institution Name
Oryx Universal College WLL

Learning Methods

Learning Method Type	Hours
Lecture	22
Practical	22

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
APR-PAR	PAR	April	12 Weeks
JAN-PAR	PAR	January	12 Weeks

SEP_NS-PAR	PAR	September (Non-standard start date)	12 Weeks

Aims and Outcomes

Aims	To investigate the underpinnings of object orientated systems.To develop object oriented systems using the unified modelling language and object oriented program code.To apply principles and patterns to improve the flexibility and maintainability of object oriented systems, with test driven development and source control playing a supporting role.To investigate the various architectures that object oriented systems may embrace.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Specify object oriented designs using the unified modelling language.
MLO2	2	Develop object oriented designs using object oriented program code.
MLO3	3	Apply principles and patterns to improve the flexibility and maintainability of object oriented designs & program code.
MLO4	4	Employ test driven development and source control in software engineering.

Module Content

Outline Syllabus	OOAD & OOP-Compositions, Aggregations & Associations-Inheritance & Polymorphism-Collections & Generics-Interfaces-Multi-ThreadingPrinciples & Patterns-e.g. Inversion of Control, Dependency Inversion, Factory, Strategy-Applying SOLIDObject Relational Mapping-Architectures-e.g. event / data driven vs. responsibility drivenTest Driven Dev.-Source Control
Module Overview	
Additional Information	The module begins by exploring the object oriented paradigm from analysis and design through implementation and testing to maintenance. The UML (Unified Modelling Language) is employed alongside OOP (Object Oriented Programming) to demonstrate key concepts, resulting in mature, fully functioning object oriented systems. The module continues by applying principles and patterns to object oriented systems with test driven development and source control playing a supporting role. The module concludes by exploring the various architectures that object oriented systems may embrace. This module thusly represents the logical follow-on to NQF4's Introducing Programming module.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Artefacts	Design & Development	60	0	MLO1, MLO2
Artefacts	Applying Principles & Patterns	40	0	MLO3, MLO4

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Glyn Hughes	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings