Advanced Software Engineering Concepts

Module Information

2022.01, Approved

Summary Information

Module Code	7106COMP
Formal Module Title	Advanced Software Engineering Concepts
Owning School	Computer Science and Mathematics
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours
Lecture	12
Practical	12
Seminar	12

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-CTY	CTY	September	12 Weeks

Aims and Outcomes

Aims	To develop an in-depth knowledge and understanding of the theories and techniques associated with the software development lifecycle. To apply these techniques in an up to date, industry standard manner. To appreciate and analyse the roles of specific software development activities in the overall processTo introduce students to the latest research, tools and techniques in software engineering.

After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Critically analyse and apply best practice techniques in software engineering.
MLO2	2	Evaluate and further develop models of software development.
MLO3	3	Deploy and understand mathematical and formal modelling of software systems.
MLO4	4	Apply advanced techniques of representation and analysis through the software development.

Module Content

Outline Syllabus	What is Software Engineering?(Software) Systems ThinkingCriticality and SoftwareSoftware Development Processes and Agile DevelopmentRequirements EngineeringDesign and ImplementationValidation and VerificationSoftware TestingSoftware Quality AssuranceSoftware Project ManagementSoftware System Modelling and Simulation
Module Overview	This module seeks to present advanced techniques of software development for an holistic approach to the whole process of producing software systems incorporating best practice and industry standards. It aims to: develop an in-depth knowledge and understanding of the theories and techniques associated with the software development lifecycle appreciate and analyse the roles of specific software development activities in the overall process introduce you to the latest research, tools and techniques in software engineering
Additional Information	Software engineering encompasses many tasks beyond writing code. This module seeks to present advanced techniques of software development for an holistic approach to the whole process of producing software systems incorporating best practice and industry standards. Each facet of software development is investigated and practiced in detail.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Portfolio	60	0	MLO2, MLO3, MLO4
Centralised Exam	Examination	40	2	MLO1

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Martin Randles	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings