Liverpool John Moores University

Title:	ADVANCED SOFTWARE ENGINEERING CONCEPTS
Status:	Definitive
Code:	**7058COMP** (120315)
Version Start Date:	01-08-2019
Owning School/Faculty:	Computer Science
Teaching School/Faculty:	Computer Science

Team	Leader
Martin Randles	Y

Academic Level:	FHEQ7	**Credit Value:**	20	**Total Delivered Hours:**	38
Total Learning Hours:	200	**Private Study:**	162		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	12
Practical	12
Seminar	12

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Artefacts	AS1	Portfolio of exercises covering software development practice and application of modelling techniques.	60	
Exam	AS2	Examination	40	2

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 process
To introduce students to the latest research, tools and techniques in software engineering.

Learning Outcomes

After completing the module the student should be able to:

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

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Portfolio	2	3	4
Examination	1		

Outline Syllabus

What is Software Engineering?
(Software) Systems Thinking
Criticality and Software
Software Development Processes and Agile Development
Requirements Engineering
Design and Implementation
Validation and Verification
Software Testing
Software Quality Assurance
Software Project Management
Software System Modelling and Simulation

Learning Activities

Formal lectures will introduce the major topics of study. Seminars and practical sessions will further develop the materials. Self-directed study, practice in the use of relevant tool(s) and research into software engineering and interrelated disciplines will provide an appropriate background.

Notes

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.