Liverpool John Moores University

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Title:	Software Engineering Principles
Status:	Definitive
Code:	**4220COMP** (127975)
Version Start Date:	01-08-2021
Owning School/Faculty:	Computer Science and Mathematics
Teaching School/Faculty:	Computer Science and Mathematics

Team	Leader
Hoshang Kolivand	Y

Academic Level:	FHEQ4	**Credit Value:**	20	**Total Delivered Hours:**	44
Total Learning Hours:	200	**Private Study:**	156		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	22
Tutorial	22

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS1	Discrete Math	40	
Report	AS2	Software Engineering Principles	60	

Aims

To introduce the students to the basic processes involved in the development of a software project.
To make the students aware of the type of systems encountered in software engineering and the software engineer's role in systems development.

Learning Outcomes

After completing the module the student should be able to:

1	Apply and use formal notation within the context of software engineering and the software development process.
2	Produce formal notations of a series of notation problems.
3	Identify and apply software engineering principles and best practice within the software development process.
4	Document the key stages of the software development lifecycle of a typical software domain, excluding the software code

Learning Outcomes of Assessments

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

Discrete Math	1	2
SE Principles	3	4

Outline Syllabus

What is Software Engineering?
Systems Engineering
Formal System Specification and Representation
Fundamental Principle of software Development including Logics, Sets and Functions
Software Dependability and Criticality
Software Development Processes
Requirements Engineering
Software Design and Implementation
Software Testing
Software Project Management

Learning Activities

This module will comprise of lectures, with supporting tutorial sessions to examine practical examples of the materials discussed.

Notes

This module aims to introduce students to the fundamental principles of best practice in software engineering and system modelling, focusing on key topics that are central to all development processes and aspects concerned with the engineering of reliable distributed systems. The major issues of systems thinking and development are addressed utilizing software process models and relevant techniques of project management: The major activities and modelling techniques of modern software

development are presented. The underlying formal concepts are described and used in the modelling and programming of system functions.