

## Liverpool John Moores University

Title: SOFTWARE ENGINEERING PRINCIPLES  
Status: Definitive  
Code: **4120COMP** (121218)  
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:** 57  
**Total Learning Hours:** 200      **Private Study:** 143

### Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	44
Tutorial	11

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Portfolio	AS1	A portfolio of exercises	40	
Exam	AS2	Examination	60	2

### Aims

*To introduce the student to the basic processes involved in the development of a software project. To make the student 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 the principles of best practice software engineering, within project planning, scheduling and management, to any practical example of software system development.
- 2 Describe a typical software development process and the common subprocesses that contribute to the production of a piece of software
- 3 Relate concepts of formal representation to model, analyse and understand computer software systems
- 4 Demonstrate where established formal notations apply to examples of computing techniques and technologies .

### **Learning Outcomes of Assessments**

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

Portfolio	3	4		
Exam	1	2	3	4

### **Outline Syllabus**

*What is Software Engineering?*  
*Systems Engineering*  
*Software Dependability and Criticality*  
*Formal Representation*  
*Software Development Processes*  
*Requirements Engineering*  
*Software Design and Implementation*  
*Software Testing*  
*Software Project Management*

### **Learning Activities**

This module will comprise of lectures and tutorial sessions to provide 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.

