

Liverpool John Moores University

Title: ADVANCED SOFTWARE DEVELOPMENT
Status: Definitive
Code: **6044COMP** (117456)
Version Start Date: 01-08-2019

Owning School/Faculty: Computer Science
Teaching School/Faculty: Computer Science

Team	Leader
Abir Hussain	Y
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Academic Level: FHEQ6 **Credit Value:** 24 **Total Delivered Hours:** 72
Total Learning Hours: 240 **Private Study:** 168

Delivery Options

Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	6
Practical	66

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Presentation	AS1	Students prepare and deliver a presentation detailing their individual roles in the software development team and the methods and technologies they are using in the development of the required piece of software.	10	
Report	AS2	A report is required containing all documentation concerned with a full software development project.	70	
Practice	AS3	The finished software is demonstrated in the labs by all the development team members.	20	

Aims

To explore the application of the skills and techniques learnt over the course of the degree programme, to the development of a significant software project.

To facilitate structured software development through the choosing and use of an appropriate set of software engineering tools, technologies and methods.

To demonstrate, in practice, the principles of software engineering

Learning Outcomes

After completing the module the student should be able to:

- 1 Identify a range of solutions in a software development project based on previously learnt methods and techniques; to initiate, extend, critically review, consolidate and plan a software development project, based on established techniques of best and most up-to-date software engineering practice.
- 2 Research and develop the necessary quality control and testing procedures.
- 3 Generate, from the available technical literature, appropriate design techniques to apply and produce an appropriate system structure.
- 4 Implement the design using an appropriate development environment with an appreciation of the limitations and uncertainty inherent within a software development project.
- 5 Produce the necessary system documentation to communicate, to both specialist and non-specialist audiences, ideas, problems and solutions encompassed by the software system.
- 6 Discuss and present production, professional and ethical issues in software development for application and extension to their own software projects.

Learning Outcomes of Assessments

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

Presentation	6				
Documentation report	1	2	3	5	
Software demo	4				

Outline Syllabus

Problem based learning: Students are assigned a documented software development project in the form of a requirements specification. They are required to form software development teams and perform an analysis of the problem, design software to provide a solution, implement and test the solution, evaluate the process and provide peer assessment forms for each development team member. Students are required to engage in self-directed study to gain the appropriate skills and knowledge to complete the project.

Learning Activities

This module will mainly comprise of problem based self-directed learning by the student with some lectures plus:

Project development involving regular team meetings with the tutor.

Practical sessions where development techniques are demonstrated and acquired.

Group work involving arranging and participating in software development team meetings.

Presentations to their own group and students in other development teams.

Computer laboratory sessions.

Notes

This module brings together the tools, techniques and technologies, taught through other modules, for application to the design and implementation of software solutions. The module presents the students with an outline project to be completed in groups, which consolidates earlier learning. The project will follow all stages of the life cycle to produce a prototype application. The students will also examine the implications of the BCS Code of Practice and the Principles of Data Protection in their work. The following are examples of the type of exercises used:

Software for an online banking system.

Advanced E-commerce application with database support utilizing the functions of modern computing devices.