

## Liverpool John Moores University

Title: NETWORK SOFTWARE DEVELOPMENT  
Status: Definitive  
Code: **4113COMP** (121211)  
Version Start Date: 01-08-2021

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

Team	Leader
Mark Allen	Y
Paul Fergus	

**Academic Level:** FHEQ4      **Credit Value:** 20      **Total Delivered Hours:** 55  
**Total Learning Hours:** 200      **Private Study:** 145

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	11
Practical	33
Tutorial	11

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Design Model	40	
Technology	AS2	Software Implementation	60	

### Aims

*To familiarise students with network protocol programming using a popular programming language.*

*To enhance students software development and problem solving skills*

*To develop employability skills including team/group work and communication*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Apply programming techniques to computer network problems
- 2 Identify solutions to simple computer networks problems using a range of software development techniques
- 3 Review the effectiveness of team work following a team project

## Learning Outcomes of Assessments

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

Design Model	2	3
Software Implementation	1	3

## Outline Syllabus

- *Network programming; Sockets, ports, addresses, datagrams, connections, standard calls (send, recv, listen, accept...), client-server, etc.*
- *Problem solving: flow diagrams, pseudocode, information representation, algorithms, encapsulation, abstraction, dividing big problems, combining small solutions, etc.*
- *Network case studies; simple chat application, streaming data, creating relationships between users, securing data, etc.*
- *Group working; understanding your own personality (leaders, encouragers, critics, etc), organisation skills, holding meetings, professional communication.*

## Learning Activities

Students will participate in lectures, practical tutorials / lab sessions and work in groups.

## Notes

Students will undertake a group project to solve problems relating to computer networks by enhancing their programming skills. Students will consider the design and problem analysis aspects of a range of networks problems and consider how these can be translated into software solutions. Students will develop employability skills such as collaborative problem solving, team work, communication and planning, via a group project forming the core work of the module's assessment.