

Liverpool John Moores University

Title: Problem Solving for Computer Forensics
Status: Definitive
Code: **4206COMP** (127967)
Version Start Date: 01-08-2021

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

Team	Leader
Michael Mackay	Y
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Academic Level: FHEQ4 **Credit Value:** 20 **Total Delivered Hours:** 44
Total Learning Hours: 200 **Private Study:** 156

Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	11
Practical	22
Tutorial	11

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Problem decomposition and solution design	60	
Report	AS2	Solution development and evaluation	40	

Aims

*To enhance students software development and problem solving skills
To develop problem decomposition and analysis skills
To implement the problem solution in a relevant programming language*

Learning Outcomes

After completing the module the student should be able to:

- 1 Apply problem decomposition methodologies to analyse computer forensic problems.
- 2 Identify solutions to simple computer forensics problems using a range of software development problem solving techniques.
- 3 Apply programming/scripting techniques to computer forensics problems.
- 4 Carry out structured evaluation and reflection of the developed solution.

Learning Outcomes of Assessments

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

Coursework 1	1	2
Coursework 2	3	4

Outline Syllabus

Problem solving: flow diagrams, pseudocode, information representation, algorithms, encapsulation, abstraction, dividing big problems, combining small solutions, etc.
Forensics case studies; searching for patterns in large data, searching for similarity, summarising information in a data set, organising information.
Implementation and prototyping and testing and validation.
Reflection.

Learning Activities

Students will participate in lectures, practical tutorials / lab sessions and group discussions.

Notes

Students will apply their understanding in two assessments. First, they will apply design and problem analysis techniques to a relevant case study scenario involving computer forensics. Second, they will translate such a design into a software solution.