

Summary Information

Module Code	4211COMP
Formal Module Title	Problem Solving for Computing
Owning School	Computer Science and Mathematics
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

Module Contacts**Module Leader**

Contact Name	Applies to all offerings	Offerings
Daniel Doolan	Yes	N/A

Module Team Member

Contact Name	Applies to all offerings	Offerings
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Partner Module Team

Contact Name	Applies to all offerings	Offerings
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Teaching Responsibility

LJMU Schools involved in Delivery
Computer Science and Mathematics

Learning Methods

Learning Method Type	Hours
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Lecture	11
Practical	33

Module Offering(s)

Offering Code	Location	Start Month	Duration
JAN-CTY	CTY	January	12 Weeks

Aims and Outcomes

Aims	To develop skills in computational thinking that can be used to develop programs to solve subject specific problems
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Learning Outcomes

After completing the module the student should be able to:

Code	Description
MLO1	Use computational thinking to design solutions to problems
MLO2	Implement design solutions in a suitable programming language.
MLO3	Develop appropriate test plans

Module Content

Outline Syllabus
Computational thinking – decomposition, pattern recognition, abstraction, algorithms Top-down design/successive refinement Pseudo-code and diagram techniques Practical exercises using compound control structure Practical exercises using methods/functions Solving problems with classes/objects Practical exercises using classes/objects Practical exercises on error handling Testing – test data, test cases, test plans, test strategies (unit, system) Practical exercises on testing

Module Overview
This module will develop your skills in computational thinking that can be used to develop programs to solve subject specific problems. Practical exercises and problem solving activities will be related such that they lead to the development of a larger software implementation.

Additional Information
The practical exercises will be related such that they lead to the development of a larger software implementation.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Learning Outcome Mapping
Report	Design Model	40	0	MLO1
Technology	Software Implementation	60	0	MLO3, MLO2