

Liverpool John Moores University

Title: Programming for Engineering
Status: Definitive
Code: **7135ENG** (120346)
Version Start Date: 01-08-2018

Owning School/Faculty: Electronics and Electrical Engineering
Teaching School/Faculty: Electronics and Electrical Engineering

Team	Leader
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Academic Level: FHEQ7 **Credit Value:** 10 **Total Delivered Hours:** 36
Total Learning Hours: 100 **Private Study:** 64

Delivery Options

Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	12
Practical	24

Grading Basis: 50 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	Case study	Simulation for an industrial case study	50	
Report	Lab based	Simulation for an Engineering Application combined with laboratory based demonstration	50	

Aims

To develop programming skills with object oriented approach necessary to design and implement a software solution for advanced Engineering applications.

Learning Outcomes

After completing the module the student should be able to:

- 1 Develop a set of program specifications for a given Engineering problem
- 2 Translate given programming specifications to a set of program constructs
- 3 Carry out a high level/embedded design using an object oriented approach
- 4 Design and implement a computer program using high level language or embedded approach for a given Engineering application

Learning Outcomes of Assessments

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

simulation case study	1	2	3
Application simulation	1	2	4

Outline Syllabus

Advanced high level language constructs:

Arrays, pointers, input-output, data structures.

Object oriented programming: classes, inheritance.

File handling, operating systems interfacing.

Program development: functions, multiple files, development tools

Embedded program development.

Learning Activities

Lectures and practical sessions

Notes

This module will develop programming skills with an object oriented approach to design and implement a software solution for advanced engineering applications.