Liverpool John Moores University

Title:	Introductory Programming and Systems Analysis
Status:	Definitive
Code:	**4008ELE** (120115)
Version Start Date:	01-08-2016

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

Team	Leader
Paul Otterson	Y

Academic Level:	FHEQ4	**Credit Value:**	20	**Total Delivered Hours:**	74
Total Learning Hours:	200	**Private Study:**	126		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Tutorial	48

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Exam	70	2
Report	AS1	Program	30	

Aims

To provide a basic foundation for the understanding of programming constructs and object orientation.
To develop an ability to analyse and model systems and thereby create databases and programmes for specific model application.

Learning Outcomes

After completing the module the student should be able to:

1	Prepare a conceptual model of a system in a logical and systematic way.
2	Produce, test and demonstrate a programme using basic constructs
3	Analyse a system design, its construction and user interfaces
4	Produce a programme suite based on a user specification

Learning Outcomes of Assessments

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

Examination	1	2	3

Program	4

Outline Syllabus

Programme Constructs
Data types
Variables & Operators
Console Applications
Decision Making
Loops
Bit Handling/Manipulation

Arrays and Strings
Text File I/O
Formatted I/O
Functions/Methods
Structures
Scope, Value & Reference Types

Sorting
Collections
Error/Exception Handling
Memory Management
Databases
Windows Applications

Object Oriented Programming (OOP)
Classes, Objects and Events
Encapsulation / Inheritance
UML
Flowcharts
Programme Design methods
System Models

Learning Activities

Lectures and practical use of software in computer lab.

Notes

The module introduces students to the process of planning, developing simple programming applications using industry standard software such as Visual Studio and Access