Liverpool John Moores University

Title:	OBJECT ORIENTED SOFTWARE DEVELOPMENT
Status:	Definitive
Code:	**5002ESE** (120625)
Version Start Date:	01-08-2016
Owning School/Faculty:	Computer Science
Teaching School/Faculty:	Computer Science

Team	Leader
Glyn Hughes	Y

Academic Level:	FHEQ5	**Credit Value:**	20	**Total Delivered Hours:**	72
Total Learning Hours:	200	**Private Study:**	128		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	24
Practical	24
Tutorial	24

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Individual Object Oriented Design exercise and report using UML.	50	
Technology	AS2	Group Data Driven Object Oriented application implementation.	50	

Aims

To enable students to gain familiarity with a modern API (Application Programming Interface). Students will learn the principles of OO (Object Orientation) through the UML (Unified Modelling Language), how to design OO applications with a modern

IDE (Integrated Development Environment), create data driven applications that connect to a DBMS (Database Management System) to utilize OO data modelling.

Learning Outcomes

After completing the module the student should be able to:

1 Illustrate and contrast the key features and purpose of a modern API.
2 Explain and apply the concepts of OOD (Object Oriented Design).
3 Specify and design OO applications using the UML.
4 Develop OO program code using visual designers and programming language features.
5 Create, deploy and test data driven applications.

Learning Outcomes of Assessments

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

Exercise and report	2	3	
Application implementation	1	4	5

Outline Syllabus

Introduction to Object Oriented principles and concepts.
Intro to the UML and the OOAD (Object Oriented Analysis & Design) process.
Use Case, Class, State, Activity, Communication & Sequence UML diagrams.
Intro to .NET components and the component based development model.
C#.NET Fundamentals.
Understanding Classes in C# .NET.
Working with Data Types, Structures and Conversion/Casting.
Intro to ADO.NET database access model.
Data manipulation with ADO.NET.
Data presentation and manipulation with LINQ.

Learning Activities

Learning activities will be through lectures and tutorials where students will be encouraged to ask questions and discuss case studies and supported labs where students will be encouraged to put theory gained in lectures and tutorials into practice.

Notes

This module is designed as an introduction to OOP (Object Oriented Programming). In so doing, students will learn about the core principles of object orientation, data

structures and modelling and data driven application development.