Liverpool John Moores University

Title: OBJECT ORIENTED SOFTWARE DEVELOPMENT
Status: Definitive
Code: **5001ONLINE**   (103091)
Version Start Date: 01-08-2011

Owning School/Faculty: Computing and Mathematical Sciences
Teaching School/Faculty: Computing and Mathematical Sciences

Team	emplid	Leader
Glyn Hughes		Y

Academic Level:	FHEQ5	**Credit Value:**	24.00	**Total Delivered Hours:**	72.00
Total Learning Hours:	240	**Private Study:**	168		

Delivery Options
Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	24.000
Online	24.000
Practical	12.000
Tutorial	12.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Object Oriented Design exercise and report using UML.	50.0	
Technology	AS2	Data Driven Object Oriented application implementation.	50.0	

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   Describe 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:

OO Design exercise   2   3

Data Driven OO app   1   4   5

Outline Syllabus

-Introduction to Object Oriented principles and concepts
-Introduction to the UML and the OOAD (Object Oriented Analysis & Design) process.
-Use Case, Class, State, Activity, Communication & Sequence UML diagrams.
-Introduction 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.
-Introduction to ADO.NET database access model.
-Data manipulation with ADO.NET.
-Data presentation and manipulation with LINQ.

Learning Activities

Learning activities will be through recorded lectures and tutorials where students will be encouraged to ask questions (Live Online Tutorials) and discuss case studies where students will be encouraged to put theory gained in lectures and tutorials into practice.

References

Course Material	Book
Author	Miles, R.

Publishing Year	2006
Title	Learning UML 2.0
Subtitle	
Edition	
Publisher	Pragma
ISBN	0596009828

Course Material	Book
Author	Priestley, M.
Publishing Year	2003
Title	Practical Object Oriented Design with UML
Subtitle	
Edition	2nd Edition
Publisher	McGraw-Hill
ISBN	0077103939

Course Material	Book
Author	Mackey, A.
Publishing Year	2010
Title	Introducing .NET 4.0
Subtitle	With Visual Studio 2010
Edition	5th Edition
Publisher	APRESS
ISBN	143022455X

Course Material	Book
Author	Albahari, J.
Publishing Year	2010
Title	C# 4.0 in a Nutshell
Subtitle	The Definitive Reference
Edition	4th Edition
Publisher	Pragma
ISBN	0596800959

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. All online activities are scheduled.