

## Liverpool John Moores University

Title: INNOVATIONS IN SOFTWARE DEVELOPMENT  
Status: Definitive  
Code: **6001ESE** (120634)  
Version Start Date: 01-08-2016  
  
Owning School/Faculty: Computer Science  
Teaching School/Faculty: Computer Science

Team	Leader
Glyn Hughes	Y

**Academic Level:** FHEQ6  
**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	Investigation concerning the ETL process.	30	
Technology	AS2	Group mobile application development.	35	
Technology	AS3	Group RIA development.	35	

### Aims

*To investigate the role and operation of data warehouses in the field of business intelligence and to apply the process of Extract, Transform & Loading (ETL) in constructing data warehouses.*

*To examine the variations in platform capability when developing mobile applications*

*that aim to replace or augment normal applications and to relate those considerations to the development process.*

*To utilize the principles of Object Orientation (OO) and the capabilities of modern Application Programming Interfaces (API) in the development of Rich Internet Applications (RIA) that strives to make software web based and thusly available as a service.*

## **Learning Outcomes**

After completing the module the student should be able to:

- 1 Critically analyse the operation of data warehouses in support of business intelligence.
- 2 Specify and develop mobile applications for typical platforms.
- 3 Assess the functional variations between normal and compact APIs.
- 4 Specify and develop RIAs across clients and servers.
- 5 Employ OO design and programming when producing applications for typical APIs.

## **Learning Outcomes of Assessments**

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

ETL process	1	
Mobile App Dev	2	3
RIA dev	4	5

## **Outline Syllabus**

*Business Intelligence and the Analytical Database.*

*Extract Transform & Loading.*

*Multi-Dimensional Modelling.*

*Star & Snow Flake Schemas.*

*Aggregations.*

*Analytical Extensions to SQL's SELECT Statement.*

*Restrictions of compact APIs and Smart Device specific API capabilities.*

*Web Based Applications versus Mobile Applications.*

*RIA History & Overview.*

*Interface Design - using Scripting or Designers.*

*Media Integration.*

*Object Oriented Design & Programming review.*

*Client Side Scripting.*

*Data Communication through Web Services.*

## **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 allows the students to explore and gain competence within numerous areas of modern software development. The focus of development is contemporary in that each area explored, is an important field of software development that is key to the growth of Information Technology in the world today.