

## Liverpool John Moores University

Title: ADVANCED WEB DEVELOPMENT  
Status: Definitive  
Code: **5114COMP** (121236)  
Version Start Date: 01-08-2021

Owning School/Faculty: Computer Science and Mathematics  
Teaching School/Faculty: Computer Science and Mathematics

Team	Leader
Matt Webster	Y

**Academic Level:** FHEQ5      **Credit Value:** 20      **Total Delivered Hours:** 55  
**Total Learning Hours:** 200      **Private Study:** 145

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	22
Practical	33

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Individual Prototype	40	
Report	AS2	Group-based Report	60	

### Aims

*To present the concepts, methods and techniques used in the development and deployment of web applications and services.*

*To develop the concepts of multi-tier web application development, including: server-side programming, database connectivity and media rich client-side interface development.*

*To introduce wider concepts of web applications such as: legal issues, server hardware and system optimization*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Explain the architectural make-up of web applications: multi-tier web-based application model as well as the Internet, Intranet and Extranet architectural models of deploying web services; especially with regard to the security implications of each.
- 2 Develop a moderately sized media rich multi-tier web solution from a given set of requirements and data tier solution.
- 3 Iteratively develop, as a team, a larger user evaluated media rich multi-tier web solution for a given commercially oriented scenario that utilises local and external data sources.

## Learning Outcomes of Assessments

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

Individual Prototype	1	2
Group-based Report	3	

## Outline Syllabus

*Anatomy of a Web Application: Multi-tier Models, Client, Server and Service Internet, Intranet and Extranet Architectures.*

*-The Lifecycle of a Web Application: Process, Deployment and Maintenance.*

*-The Data Tier: Databases, SQL and Queries.*

*-The Processing Tier: Language, Logic, Media Generation and Information.*

*-The Client Interface Tier: HTML & CSS, Data Storage and Update, Interface, Media and Interaction..*

*-Information System: Users, Roles, Tasks and Information.*

*-Analysis and Design Methods: HCI and Usability, Agile Development Methods.*

*-Testing Web Applications: Automated Tools, Stress Testing and User Evaluation*

## Learning Activities

Lectures will typically include theoretical and practical components, which will prepare the student for the follow up guided lab session. Practical components will cover: web application development, system configuration and the use of media rich content.

## Notes

This module provides the student with the concepts, methods, techniques and experience to analyse, design and develop media rich interactive multi-tier Web-

based applications.