Liverpool John Moores University

Title: The Smart Environment
Status: Definitive
Code: **4171CSD**   (125546)
Version Start Date: 01-08-2021

Owning School/Faculty: Engineering
Teaching School/Faculty: Engineering

Team	Leader
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Academic Level:	FHEQ4	**Credit Value:**	20	**Total Delivered Hours:**	55
Total Learning Hours:	200	**Private Study:**	145		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	11
Practical	22
Workshop	22

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	ASS 1	2,500 word report	70	
Technology	ASS 2	2,000 word lab report	30	

Aims

In a modern society, we live our lives in a digital world of interconnected smart devices and computing technology. This module sets the scene for this smart environment, which affects us all and introduces the underlying principles of the technologies and infrastructures upon which it relies.

Learning Outcomes

After completing the module the student should be able to:

1   Describe how the key technologies involved in the smart environment work together.
2   Make predictions about the future development of smart technologies.
3   Describe the potential impact that developments in smart technologies may have on lifestyle.
4   Evaluate the key issues facing the development of a smart environment.

Learning Outcomes of Assessments

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

Report   1   2   4   3

Lab   1   2   4   3

Outline Syllabus

Sensors, controllers
Wireless mobile communications – wireless LANS, ad hoc sensor networks
Pervasive or ubiquitous computing paradigms – distributed, grid computing
Location aware services and mobility tracking
Device communication – Middleware
Intelligent devices and systems – enhanced services, predictive and decision making capabilities
Energy distribution
User interfaces
Security and privacy
Key applications and drivers

Learning Activities

A series of structured lectures, workshops and practical tasks will provide a varied range of learning activities.

Notes

The smart environment can be defined as:
• Virtual computing environments enable smart devices to access pertinent services anywhere and anytime.
• Physical environments may be embedded with a variety of smart devices
• Human environments: humans, either individually or collectively, inherently form a smart environment for devices.

This module looks at the key technologies and issues involved in a smart environment, setting the scene for your future studies.