

Internet of Things (IoT)

Module Code:	COS7039-B
Academic Year:	2018-19
Credit Rating:	20
School:	Department of Computer Science
Subject Area:	Computer Science
FHEQ Level:	FHEQ Level 7 (Masters)

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	12
Tutorials	12
Laboratory	12
Directed Study	164

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Semester 2 (Feb - May)

Module Aims

To enhance students' understanding about the design and development of the Internet of Things (IoT) systems, including its' architecture, technologies on each layer, and IoT-specific data processing and analytics frameworks. Hands-on skills will be developed by studying applications of IoT in every corner of life, and implementing components of IoT applications.

Outline Syllabus

This module focuses on key technologies to develop an IoT system. Following topics will be covered:

IoT components and architecture; Technologies in each layer of the architecture; Sensors

and Sensing technology; Data transmission and connectivity; IoT platforms, including offerings by Google and Apple; IoT specific data processing and analytics; IoT and open data; IoT user interface issues including data models and semantics; Security and Privacy in IoT; Security and Privacy frameworks for IoT, Human factors involved in designing IoT systems.

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1 Demonstrate an advanced understanding of designing and implementing IoT systems.
- 2 Analyse and effectively use available frameworks to design and implement IoT systems.
- 3 Demonstrate the ability to transfer theoretical concepts to practical applications
- 4 Demonstrate ethical implications of technological advancement and usage with regard to the Internet of Things
- 5 Demonstrate awareness of Human Factors in developing interfaces to the IoT devices

Learning, Teaching and Assessment Strategy

Lectures and lab sessions make up the contact time. The lectures will present the relevant theory underpinning the subject and the practical will enable students to apply the theory to practical situations.

Assessment is by coursework and you will have opportunity to select your coursework based on real-world use cases and projects running as part of different labs.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Formative	Coursework	A proposal for development of IoT system	0-1000 words	%	No
Summative	Coursework	Research Paper on applications of IoT	0-2000 words	40%	No
Summative	Coursework	Design and Development of an IoT system/component	0-3000 words	60%	Yes

Legacy Code (if applicable)

CM-0446D

Reading List

To view Reading List, please go to [rebus:list](#).