Module Specification

Cloud Computing and Internet of Things [TSI]

Version: 2023-24, v2.0, 09 Aug 2023

Contents

Part 1: Information

Module title: Cloud Computing and Internet of Things [TSI]

Module code: UFCE5C-12-3

Level: Level 6

For implementation from: 2023-24

UWE credit rating: 12

ECTS credit rating: 6

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: None

Field:

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: This module aims to develop knowledge and critical understanding of the principles of Cloud Computing and IoT systems, and the commercial and business implications of technical advances in this area. Students

will gain practical experience in the development of Cloud based IoT systems and exposure to appropriate hardware and software platforms.

Outline syllabus: •Trends of Computing

• Introduction to IoT

•IoT Devices, Sensors and Architecture

•IoT communication and protocols

•Cloud Computing Fundamentals

• Cloud Computing Types, Services and Architectures

•Virtualization and Resource Management

•Virtual machines, web applications, mobile services

•Application development and cloud processing and IoT and cloud integration

•Security and Privacy for IoT/CloudComputing

Part 3: Teaching and learning methods

Teaching and learning methods: Learning and teaching will be provided to students in two forms: lectures, practical classes and labs. During lectures, theoretical aspects of the course will be provided to students by the teaching staff. Lectures will be supported by presentation published and available to the students on e.tsi.lv under the module section.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Determine the right sensors and communication protocols to use in a particular IoT system.

MO2 Select from a range of possible technologies and appropriately deploy Cloud Services using different cloud technologies.

MO3 Implement security features to protect data stored in the cloud.

Hours to be allocated: 120

Contact hours:

Independent study/self-guided study = 96 hours

Face-to-face learning = 64 hours

Total = 160

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/uwe/lists/08473D5B-8BAA-1D73-8C4A-03674EE4658D.html?lang=en&login=1

Part 4: Assessment

Assessment strategy: Students studying this module will be presented with case studies. They will be required to design and implement a suitable solution presentation their approaches and outcomes at the end of the project.

Students who are resitting will be required to rework their project following the same case study.

Assessment tasks:

Project (First Sit)
Description: Design, implement and document a solution for the given IOT case study.
(Max 3000 words)
Weighting: 70 %
Final assessment: No
Group work: No
Learning outcomes tested: MO2, MO3

Presentation (First Sit)
Description: Present findings of project. (15 mins)
Weighting: 30 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1

Project (Resit)

Description: Design, implement and document a solution for the given IOT case study. (Max 3000 words)

Weighting: 70 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3

Presentation (Resit)

Description: Present findings of project. (15 mins)

Weighting: 30 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Computer Science and Software Development {Double Degree} [Oct][FT][TSI][4yrs] BSc (Hons) 2020-21

Computer Science and Software Development {Double Degree} [Oct][PT][TSI][5yrs] BSc (Hons) 2020-21

Computer Science and Software Development {Double Degree} [Feb][PT][TSI][5yrs] BSc (Hons) 2020-21

Computer Science and Software Development {Double Degree} [Feb][FT][TSI][4yrs] BSc (Hons) 2020-21