Module Specification

Information Technology

Version: 2023-24, v4.0, 03 Jan 2023

Contents

Part 1: Information

Module title: Information Technology

Module code: UFCFR3-30-1

Level: Level 4

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: None

Field: Computer Science and Creative Technologies

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: In addition to the Learning Outcomes the educational experience may explore, develop, and practise but not formally discretely assess the following:

Demonstrate key transferable skills in reflective practice, research, analysis and

summary.

Demonstrate key transferable skills in application use.

Outline syllabus: Information Technology in context - Important individuals, organisations and projects in the evolution of digital technologies. The context and application of desktop systems, mobile technologies, business servers, games consoles, multimedia, scientific systems.
An introduction to the principles of computer science.

Computer systems architecture – the principles of design of digital devices, basic components, infrastructures and standards.

Networks - An introduction to the role of networks. Network standards, models and protocols. Basic network design, management and security. Internet infrastructure, applications and Cloud Computing.

Systems development: problem definition and specification, algorithms. Software management, configuration and testing. Introduction to software tools – programming languages. A practical introduction to programming principles and concepts, and IDEs. Principles of compilers, interpreters etc.

Basic programming concepts: program structure and syntax; using primitives: declarations, assignments, constants, arithmetic operations and expressions, string handling; simple input and output. Program Control: defining and using sequence, selection and iteration techniques; procedures, subroutines and functions.

Software - The concept of stored programs. Principles and functions of operating systems. Network software.

Data – an introduction to data storage and retrieval concepts. Representation from analogue to digital, ASCII, image formats, multimedia and stored programs.

Data Handling: simple and compound data types: scalars, arrays and hashes; record

structures (comma delimited, fixed format, tagged); file structures (sequential, random access, hashed); RDBMS; file structures for representation of text; sound; images.

The Internet: an introduction to the software and hardware technologies that underpin the Internet as a global network.

The World Wide Web and applications: the client-server paradigm in relation to Web browsers and server side systems and the MVC architectural pattern; introduction to relevant programming and scripting tools.

Ethics, Social and Legal Issue: ethical, social and legal issues raised by IS; challenges to the protection of individual privacy and intellectual property.

Security: key terms and critical concepts of information security; major security threats; tools and technology for safeguarding information resources

Part 3: Teaching and learning methods

Teaching and learning methods: This module makes no assumption of previous learning or experience of digital technology but expects a basic awareness of the wide range of roles given to such technology in society today.

A combination of lectures, tutorials, workshops and student-centred learning is employed in this module. This combination is designed to suit traditional learning approaches as well as the wide range of modes of attendance and distance learning expected to develop in the future. Materials will be provided through a range of media, including Blackboard and the Internet.

The module combines knowledge based learning led by a lecture programme, tutorials with opportunities for discussion, groupwork and formative assessment, and practical workshops reinforcing knowledge of theory. Students are encouraged to keep up to date with current developments in Information Technology through the

use of the Internet.

Scheduled learning includes lectures, seminars, tutorials, project supervision, demonstration, practical classes and workshops.

Independent learning includes hours engaged with essential reading, assignment preparation and completion etc.

Hours:

Contact time: 72 (3 hours per week)

Assimilation and development of knowledge : 148

Exam preparation : 40

Coursework preparation:40

Total study time: 300 hours

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

MO1 Show knowledge, understanding and appraisal of Information Technology; hardware, software, networking, data and systems development.

MO2 Identify key individuals and organisations in the computer industry, and key milestones and historical aspects of computer industry development.

MO3 Design and implement a basic web-based information system.

MO4 Demonstrate key transferable skills in problem evaluation, problem solving, basic program design and programming.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/modules/ufcfr3-30-1.html

Part 4: Assessment

Assessment strategy: The assessment strategy will consist of 2 tasks one individual assignment and one group assignment.

The coursework assessments will be based on work covered in lectures and tutorials, with guidance offered to the students during tutorials. The examination will be based on the reading, lecture content and tutorial work.

Presentation: Group Assignment worth 25% of the module assessing learning outcomes 1 and 2.

Individual Assignment worth 75% of the module assessing learning outcomes 2 and 3. The assignment will require students to design and implementation of a small web database system.

The resit assessments will follow the same assessment profile as the main sit.

Assessment tasks:

Presentation (First Sit)
Description: This assignment will entail small groups of students (2-3) to research and prepare a presentation from a pre-defined topic (which they can choose from a pool of topics provided) to demonstrate achievement of learning outcomes 1 and 2.
Weighting: 25 %
Final assessment: No
Group work: Yes
Learning outcomes tested: MO1, MO2

Portfolio (First Sit)

Description: Students are required to prepare and submit an individual portfolio to demonstrate a basic understanding of programming concepts and demonstrate the skills to build a web database application based to demonstrate learning outcomes 3 and 4.

Weighting: 75 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4

Presentation (Resit)

Description: The resit presentation will follow the same assessment brief as the main sit.

Weighting: 25 %

Final assessment: No

Group work: Yes

Learning outcomes tested: MO1, MO2

Portfolio (Resit)

Description: The resit portfolio will follow the same assessment brief as the main sit.

Weighting: 75 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Business Computing [Frenchay] BSc (Hons) 2023-24

Information Technology Management for Business [Frenchay] BSc (Hons) 2023-24

Business Computing {Foundation} [Frenchay] BSc (Hons) 2022-23

Business Computing {Foundation} [GCET] BSc (Hons) 2022-23