



## **Programme Specification**

### **Information Technology [Jan][FT][Frenchay][1yr]**

Version: 2020-21, v1.0, Validated

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## Section 1: Key Programme Details

### Part A: Programme Information

**Programme title:** Information Technology [Jan][FT][Frenchay][1yr]

**Highest award:** MSc Information Technology

**Interim award:** PGCert Information Technology

**Interim award:** PGDip Information Technology

**Awarding institution:** UWE Bristol

**Teaching institutions:** UWE Bristol

**Study abroad:** No

**Year abroad:** No

**Sandwich year:** No

**Credit recognition:** No

**School responsible for the programme:** FET Dept of Computer Sci & Creative Tech, Faculty of Environment & Technology

**Professional, statutory or regulatory bodies:** Not applicable

**Modes of delivery:** Full-time

**Entry requirements:** For the current entry requirements see the UWE public website.

**For implementation from:** 01 September 2020

**Programme code:** G56A12-JAN-FT-FR-G56A12

## Section 2: Programme Overview, Aims and Learning Outcomes

### Part A: Programme Overview, Aims and Learning Outcomes

**Overview:** The programme aims to equip students with the knowledge, skills and attitudes necessary to work effectively and take on management responsibilities in a modern business or public sector environment where information technology and information services are key components of the organisation.

**Features of the programme:** A group-work software development project is a compulsory module and involves active collaboration with other students on the master's programme. This has an element of group-based and individual-based assessment. In several modules, such as Professionalism and Governance in IT, the exact content of the module will change as the literature and research on modern IT is published.

**Educational Aims:** The educational aims of the scheme are:

To provide an intellectual experience of advanced study, underpinned by staff expertise, research, and experience with systems development;

To enable the student to further and deepen his/her knowledge, understanding and analytical abilities in a stimulating and challenging academic environment;

To prepare the student for further professional development in his/her chosen field;

To develop the student's ability to conduct research in their chosen field;

To offer a flexible provision of postgraduate opportunities which allows for the engagement of part-time students whilst still in employment.

At the end of the programme, students should:

Have a flexible and critical attitude to innovation and change and be prepared for changing and varied employments;

Understand the significance of the dynamic role of information and systems technologies in the development of modern business and its importance in society in

general;

Be able to analyse, synthesise and provide for the acquisition of appropriate skills in order that these may be applied in future employment;

Understand, and be able to use and exploit, relevant modern information systems;

Have management and communication skills relevant to the activities involved in information systems use and management;

Have an awareness of the social and organisational contexts in which information and technological changes operate;

Have a firm foundation on which to build future professional development;

Be able to carry out independent supervised research within the information world through the application of relevant methodical and analytical approaches.

### **Programme Learning Outcomes:**

On successful completion of this programme graduates will achieve the following learning outcomes.

#### **Knowledge and Understanding**

- A1. The nature of information and data, the range of application domains and trends in the application of IT systems
- A2. Key principles in the fields of management, information and communication of relevance to information technology
- A3. Approaches to systems development and to information management, processing and communication
- A4. Appreciation of strategies for information systems introduction, change and risk management and quality assurance
- A5. Appreciation of the professional, legal, social, cultural and ethical issues related to computing and IT

- A6. Appreciation of security risks and the impact of security breaches on corporate integrity and personal privacy
- A7. Awareness of sustainability and environmental issues in IT practice
- A8. Appropriate research methods to investigate a specific area of professional interest or concern and to evaluate larger-scale research done by others

### **Intellectual Skills**

- B1. Critically evaluate developments and new applications of information and communication technology systems
- B2. Evaluate the roles and uses of IT in different business and public sector settings
- B3. Analyse and model system problems and develop pragmatic, creative and innovative solutions
- B4. Evaluate a variety of methods and approaches to systems development
- B5. Recognize a clear research question or hypothesis and thus critically analyse theoretical perspectives relevant to the research process
- B6. Evaluate research methodologies, tools and techniques, and the process of research, reflectively
- B7. Relate theory and practice in the context of the application domains explored in the chosen option modules
- B8. Balance conflicting objectives in the research, selection and development of information systems and supporting technical platforms

### **Subject/Professional Practice Skills**

- C1. Design, improve and retire/replace systems incorporating social, informational and technical elements
- C2. Develop familiarity with legislation, codes of practice and industrial standards relating to information management and computing
- C3. Identify and mitigate security risks and risks to successful project implementation
- C4. Involve stakeholders in the design, prototyping and evaluation of new digital systems

- C5. Manage and optimise software development including efficient coding, testing and integration
- C6. Manage projects and people, including distributed teams
- C7. Identify information/data requirements that are crucial to organisational performance and develop workflows for data extraction, management, analysis and integration into organisational intelligence and reporting
- C8. Design and conduct research in the subject area leading to evidence-based recommendations for change

### **Transferable Skills and other attributes**

- D1. Communication skills: to communicate orally or in writing, including, for instance, the results of technical investigations, to peers and/or to “problem owners”
- D2. Self-management skills: to manage one’s own time; to meet deadlines; to work with others having gained insights into the problems of team-based systems development
- D3. Leadership skills: building a vision, encouraging others to participate
- D4. IT Skills in context (to use software in the context of problem-solving investigations, and to interpret findings)
- D5. Progression to independent learning: To gain experience of, and to develop skills in, learning independently of structured class work. For example, to develop the ability to use on-line facilities to further self-study
- D6. Awareness of professional literature: to read and to use literature sources appropriate to the discipline to support learning activities
- D7. Working with others: to be able to work as a member of a team; to be aware of the benefits and problems which teamwork can bring

**Assessment strategy:** Given the combined academic and information systems focus of the degree, assessment has been designed to foster research, writing and practical skills, but also the ability to create high quality information outputs and present these successfully. Assessments therefore combine:

Written coursework addressing core module learning outcomes

Professional reports addressing specific requirements and presented as if to workplace stakeholders or management

Group or individual presentations communicating the results of development projects or the critique of current/emerging topics or presenting resources or design prototypes

Portfolios to explore aspects of digital design

Examinations, many of which follow a formal structure but comprise 50% or less of the whole module assessment and where they comprise all the assessment involve seen questions which can be prepared in advance or are a summative compilation of essay work

The programme encompasses a range of assessment methods including essays, professional reports, presentations and practical portfolios.

**Student support:** .

## **Part B: Programme Structure**

### **Year 1**

The student must take 180 credits from the modules in Year 1.

### **Year 1 Compulsory Modules**

The student must take 150 credits from the modules in Compulsory Modules.

<b>Module Code</b>	<b>Module Title</b>	<b>Credit</b>
UFCF9Y-60-M	CSCT Masters Project 2020-21	60
UFCFQJ-15-M	Digital Design and Development 2020-21	15
UFCFED-30-M	Group Software Development Project 2020-21	30

UFCFHJ-15-M	Information Security 2020-21	15
UFCFPJ-15-M	Project Management 2020-21	15
UFCFNJ-15-M	Strategy and Governance in IT 2020-21	15

### Year 1 Optional Modules

The student must take 30 credits from the modules in Optional Modules.

Module Code	Module Title	Credit
UFCF8H-15-M	Big Data 2020-21	15
UFCFKR-15-M	Business Intelligence and Data Visualisation 2020-21	15
UFCFKJ-15-M	Cloud Computing 2020-21	15
UFCE8J-15-M	Designing the User Experience 2020-21	15
UFCFGD-15-M	Information and Knowledge Management 2020-21	15
UFCFLJ-15-M	Linked, Open Data and the Internet of Things 2020-21	15
UFCFMJ-15-M	Machine Learning and Predictive Analytics 2020-21	15
UFCFJJ-15-M	Social Media and Web Science 2020-21	15

### Part C: Higher Education Achievement Record (HEAR) Synopsis

Graduates will be able to demonstrate knowledge and understanding of the foundations and history of Information Technology (IT) and trends in IT, as well as hardware and software components of IT, networks and databases and business information systems applications. They will be able to understand systems analysis and design methods and techniques; the information systems (IS) development process and IS development practice.

They will have gained understanding of the relationship between computer-based IS and business objectives, as well as business organisations and operations, and strategic issues for business. These graduates will also be able to demonstrate knowledge and understanding of the Internet/WWW/e-commerce environment.

These graduates will be critical thinkers, able to analyse, evaluate and to synthesise different types of information. They will be able to appreciate problem contexts, balance conflicting objectives and solve problems.

In addition they will be able to conduct an organisational analysis highlighting issues and concerns surrounding the use of information systems. They will be able to conduct user requirements analysis, specify requirements for information systems applications and model and design procedures, data structures, information systems. Graduates will also be able to construct basic IS, including web-based IS; follow system development methods (including prototyping) and build applications using tools, methods and packages.

They will have shown that they are able to work (alone and in teams) in a disciplined manner on IT development projects. They are also able to integrate design methods, working methods and toolsets to achieve coherent and focused practice in application of information systems in organisational contexts. They will also be able to discuss the achievement of operational and strategic business objectives through the application of information systems.

Graduates will be good communicators, both orally and in writing. They will have developed the skills to manage their own time; to meet deadlines and to work with others, having gained insights into the problems of team-based systems development. They will be able to learn independently of structured class work and to read and to use literature sources to support their learning.

They will also be able to use software in the context of problem-solving investigations and to interpret findings, as well as have the ability to express problems in appropriate notations.

**Part D: External Reference Points and Benchmarks**

In designing the programme, the faculty has drawn on the following external reference points:

QAA Benchmark statements on the fundamental requirements for programme design, as well as many of the subject knowledge and skills guidance for generalist Masters programmes

The programme design and module specifications have been extensively guided by guidelines on postgraduate teaching within the University of the West of England and the influence of web-based technologies and its value in business

Level 7 guidance on learning objectives from SEEC, covering Knowledge and Understanding, Intellectual Skills and Transferable Skills and Other Activities, in particular.

From the QAA benchmarks, the programme focused on the need to integrate theory and practice as well as planning the development of a set of attitudes and an appreciation of a range of applications and their impact on users. This has been mostly achieved by making the Group Software Development Project a compulsory part of the course, and another 30 credit module exploring current IT problems (Professionalism and Governance in IT), as well as project management exploration in another module (Project Management). The Masters Dissertation develops the student's research and investigative skills. These modules, which comprise half the Masters course's credits, amply cover the QAA's guidance on Generic (transferable) Skills, such as the ability to "critically review the literature, which includes identifying all of the key developments in a particular area of study, critically analysing them and identifying limitations and avenues for further development or explanation", as well going a long way to providing an opportunity to recognise and develop innovative opportunities.

UWE Teaching and Learning Strategy has informed the design and mix of assessment regimes which are included in this Masters course, as well as the need

to recognize constraints on contact and assessment allocations for staff delivering a postgraduate provision. There is a range of assessment methods, with a clear attempt to include presentation and verbal justification of studies as well as written reports. Examinations still feature in many modules but there is variation in the preparation for those controlled condition assessments (Project Management – previewed exploratory questions known at start of module) in line with guidance on provision at postgraduate level and for international students. In the SEEC Level 7 guidelines, Knowledge and Understanding at this level should cover “current theoretical and methodological approaches”, which is at the core of the Professionalism and Governance in IT module. The Group Software Development Project particularly covers the Level 7 intellectual skill: “designs and undertakes substantial investigations to address significant areas of theory and/or practice”. This group project also very much satisfies a Level 7 transferable skill: “works effectively in multiple teams as leader or member... make appropriate use of the capacities of team members”.

### **Part E: Regulations**

Approved to University Regulations and Procedures.