STUDENT AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Information			
Module Title	Cloud Computing		
Module Code	UFCFKJ-15-M	Level	Level 7
For implementation from	2018-19		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Contributes towards	Information Management [Sep][FT][Frenchay][1yr] MSc 2018-19 Information Technology [Sep][FT][Frenchay][1yr] MSc 2018-19 Information Technology [Sep][FT][Villa][1yr] MSc 2018-19 Information Technology [Jan][FT][Villa][1yr] MSc 2018-19 Information Technology [May][FT][Villa][1yr] MSc 2018-19		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
Educational Aims: See Learning Outcomes

Outline Syllabus: Cloud Computing Overview:
History of cloud computing and a discussion of business drivers and technology innovations.
Basic cloud terminology and concepts are introduced, along with descriptions of common
benefits and challenges of cloud computing adoption.
Understanding of virtualisation concept and possible business drivers behind the use of virtual
computer hardware platforms, operating systems, storage devices, and computer network
resources. |

Concepts and Models:
Cloud delivery and cloud deployment models are discussed in detail, discussion on cloud characteristics and roles and boundaries.

Cloud-Enabling Technologies:
Contemporary technologies that realize modern-day cloud computing platforms and innovations are discussed, including data centres, virtualisation, and Web-based technologies.

Fundamental Cloud Security:
Security topics and concepts relevant and distinct to cloud computing are introduced including: confidentiality, integrity, authenticity, availability, threat, vulnerability, risk, security controls, security mechanisms, security policies and descriptions of common cloud security threats and attacks.

Cloud Infrastructures and Management Mechanisms:
Primary cloud computing mechanisms and their management mechanisms.

Sustainability impacts of Cloud Computing:
Sources of electricity and related greenhouse gas emissions, clean and dirty cloud, using renewable power to de-carbonise cloud / data centres, ways to improve cloud energy efficiency, buying clean cloud services, impacts of migrating from in-house to cloud and societal impacts of cloud computing.

Cloud Computing Architectures:
Technology architecture within the realm of cloud computing – including requirements and considerations that manifest themselves in broadly scoped architectural layers (e.g. fundamental, advanced, and specialized) and numerous distinct architectural models.

Future of Cloud Computing:
Cloud computing future opportunities, challenges and research trends.

Teaching and Learning Methods: This module will involve 2 hours contact time per week for one semester equally divided between lecture and tutorial sessions.

Contact time: 24 hours
Assimilation and development of knowledge: 86 hours
Presentation preparation: 10 hours
Coursework preparation: 30 hours
Total study time: 150 hours

The module is delivered through weekly lectures and weekly tutorial sessions. Each lecture will direct the course and introduce the new ideas and skills required. Then small group tutorial sessions will enable each student to carry out the study and research exercises described in the associated work-sheet under the guidance of a Tutor.

The teaching material is available from Blackboard. A course text is also recommended.

Scheduled learning includes lectures and tutorials.

Independent learning includes time engaged with essential reading and assignment preparation and completion.

Part 3: Assessment

The component A grade will be obtained from a single oral assessment presentation/viva exam to be taken at the completion of teaching. This component will consist of questions related to course work produced by the student which should test the student's understanding and knowledge of the fundamental concepts presented in the course work as well as their ability to apply those concepts and ideas to real-life scenarios (case studies).

The Component B, coursework normally involves solving a business related cloud adoption problem based on given requirements, proposing a solution and preparing implementation specifications. The actual assignment topics are chosen to demonstrate some basic principles, which are especially significant to the course. The coursework is required to be carried out by individual students and the assessment should be made on written work provided by each individual.

There will be opportunities for formative assessment in the form of regular in-class presentations of research/implementation completed as part of tutorial work completed and subsequent group discussions.

First Sit Components	Final Assessment	Element weighting	Description
Report - Component B		75 %	Individual coursework report (2000 words)
Presentation - Component A	✓	25 %	Oral assessment presentation/viva exam (20 minutes)
Resit Components	Final Assessment	Element weighting	Description
Report - Component B		75 %	Individual coursework report (2000 words)
Presentation - Component A	✓	25 %	Oral assessment presentation/viva exam (20 minutes)

Part 4: Teaching and Learning Methods	
Learning Outcomes	On successful completion of this module students will be able to:

	Module Learning Outcomes
MO1	Demonstrate a comprehensive understanding of the business drives, techniques and methodologies applicable to cloud computing and virtulisation
MO2	Undertake independent analysis of the security issues in Cloud Computing
MO3	Evaluate sustainability issues arising from cloud computing and propose actions to mitigate against these
MO4	Critically compare between traditional data storage and modern-day cloud computing data centre technology, and apply new approaches to complex problems that are appropriate to this level
MO5	Critically evaluate various cloud computing mechanisms including cloud services e.g. cloud storage, cloud usage monitoring, automated scaling and remote administration to apply to complex problems

Contact Hours	Contact Hours	
	Independent Study Hours:	
	Independent study/self-guided study	126

	Total Independent Study Hours:	126
		4
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	24
	Total Scheduled Learning and Teaching Hours:	24
	Hours to be allocated	150
	Allocated Hours	150
Reading List	*The reading list for this module can be accessed via the following link:* https://uwe.rl.talis.com/modules/ufcfkj-15-m.html	