SOLENT UNIVERSITY SOUTHAMPTON

Solent University Module Descriptor

Module Code: COM614 **Module title: Cloud Computing and Virtualisation**

Why is this module important?
Cloud computing has become the underpinning technology for cost-effective IT services development, deployment and operation. As a fundamental enabling technology, virtualisation facilitated the creation of virtual computing and networking environments. Thus it contributes to the emergence of the Internet of Everything, which permeates into consumer businesses as well as most industries, today and for the foreseeable future.

What you will learn on the module
Learning the fundamentals of cloud and virtual computing will include definitions, service models and deployment, standards, mechanisms, infrastructure and architecture as well as societal issues. Then cloud computing applications, including cloud orchestration, cloud mobility and wireless cloud, security and privacy will be addressed. Exploring further specific functionality, including cloud auditing, forensics and cognitive cloud matter will be the third phase. You will learn how to investigate, critique, evaluate a range of cloud computing enabling technologies and their applications from various user cases and case studies. This will be accompanied by developing practical skills of using popular Cloud Computing Platforms. This will enable you to select and create your own cloud project, thus equipping you with the necessary knowledge to understand and engage with today and tomorrow cloud computing challenges.

How you will learn
You will learn through a range of learning approaches (such as student-centred, interactive, applied, inquiry-based, reflective and problem-based) and a mix of theoretical, practical laboratory activities. Your learning journey will start with the fundamental of cloud and virtualisation from tutor-led sessions. Then through a joint tutor-students led approach you will explore cloud computing platforms virtualisation solutions in practical lab based sessions. You will also investigate applications and relevant operational approaches. You will then be equipped to expand your learning through an interactive student-led approach.

How much time the module requires
This learning time is made up of contact time, directed and independent learning activities, and assessment tasks. Guidance will be offered on how you should best manage your study time on this module.

How you will be assessed

Tasks which help you to learn and prepares you for summative tasks (Formative):
Throughout the lab-based sessions you will be provided with constructive tutor feedback. Peer discussions will also contribute to the dialogue. There will be an opportmoduley to have a draft of the assignment reviewed at least a few weeks before the formal summative hand-in.

Tasks which count towards your degree (Summative):
The summative assessment is a written report centered on your individually created practical cloud project.
Individually you will design a cloud-based solution to a prescribed problem.

The solution will require you to critically analyse requirements, available cloud enabling technologies and design solutions to meet the requirements, including consideration of any potential ethical, legal and professional issues.
You will critically reflect on your learning as well as providing evidence of your ability to combine your practical and cognitive cloud computing and virtualization related knowledge.

When assessment does not go to plan

If you are referred in AE1 you will be required to revise and resubmit your report in the light of constructive tutor feedback.

What you will be able to do after the module

On successful completion of the module, you are expected to be able to:

1. Critically evaluate the principles of cloud computing and virtualisation and critically review the emerging and enabling technologies that support their applications.
2. Review, critically appraise and create cloud computing project that construct responses to challenges created by a changing technical and service environment.
3. Autonomously design a cloud computing solution that meets given requirements of a specific operational setting, building on practical skills.
4. Research and communicate effectively on issues relevant to available and future cloud computing as well as virtualisation technologies.
5. Evaluate the Ethical, Environmental, Technical, Political, Legal, Business and Financial issues surrounding Cloud based applications.

How this relates to the dimensions of Solent's Real-world curriculum framework

Dimensions	How students learn	How students are assessed
Students are challenged to think in critical, creative and applied ways	Students will explore multiple technologies, experience various learning approaches and develop practical skill.	This will be demonstrated through your individual reflective report and project.
Students are inspired to do research through inquiry, curiosity and problem-solving	Through investigating and developing their individual cloud-based case study project.	Report requires a review of the literature while the development of your individual case study project will evidence your problem-solving skills.
Students experience an intellectually stimulating curriculum which inspires them to learn for life	Student will draw from both their in-class practical and theoretical learning while directed learning will support them in engaging with their own case study project	Students will be able to evidence the originality and the scope of their learning through the production of their report and the creation of their case study project.
Students reflect and grow inwardly, social and ethically to be able to confront the challenges of the world	Through their exploration and evaluation of technical, ethical, environmental, societal, legal, financial, business and political issues, as well as how these interrelate.	Report will require a good contribution of reflective practice as well as the case study will require to evidence these issues are adequately considered.

Summative assessment details

AE1	Weighting:	100%
	Assessment type:	Reflective report informed by a practical individual project
	Aggregation:	N/A
	Length/duration:	3000 words
	Online submission:	Yes
	Grade marking:	Yes
	Anonymous marking:	No

Module Title: Cloud Computing and Virtualisation			
Credit Points:	20	Module Code:	COM614
FHEQ Level:	6	School/Service	SMAT
Module Delivery Model:	CD	Max/Min student numbers	
Module Leader:	Jomo Batola		
HECOS code	100373,100365		

Module change history:

Module Approved/Year Implemented/Code	July 2019	2020/21	COM614