Module: Information Systems 271

Module name:	Information Systems 271
Code:	INF271
NQF level:	6
Type:	Core – Bachelor of Information Technology
Contact time:	48 hours
Structured time:	8 hours
Self-directed time:	64 hours
Notional hours:	120 hours
Credits:	12
Prerequisites:	INF171

Purpose

Information and communication technology has changed the way in which we can access resources and how enterprise applications and software can be accessed. Various concepts such as Software as a Service and Platform as a Service is changing the way companies do business. This module will investigate Microsoft Azure, Amazon, and Google and provide an understanding of these nearly limitless resources for mature enterprises and start-ups, and how they can be utilised with little to no initial capital investment. This module will further investigate security and ethical considerations for public, private and hybrid cloud services and delivery models.

Outcomes

Upon successful completion of this module, the student will be able to

- Demonstrate detailed knowledge of the key cloud architectures, disciplines or practices, including an understanding of and the ability to apply the key terms, concepts, facts, principles, rules and theories of cloud platforms, demonstrating how this can be related to current businesses.
- Evaluate, select and apply appropriate methods, procedures or techniques in investigation of choosing cloud services and delivery models.
- Demonstrate the ability to identify, analyse and solve problems faced by deploying certain cloud services, gathering evidence and applying solutions based on current best practices.
- Use reporting techniques, metrics, to communicate organisational drivers to colleagues, managers, and end users.
- Demonstrate an understanding of the ethical and security implications within cloud services and delivery models.

Assessment

Assessment is performed using a variety of instruments:

- Continuous evaluation of theoretical work through a written assignment, formative tests, and a summative test.
- Continuous evaluation of project work, whereby the student must design, manage and report on the outcome of a chosen cloud technology for a given scenario.

- Final assessment through a written examination.
- A final project paper will be submitted for evaluation.

Teaching and Learning

Learning materials

- Lecturer hand-outs and samples.

Prescribed Book

Information Systems: Cloud Computing – IT without frontiers.

Learning activities

The teaching and learning activities consist of a combination of formal lectures on theoretical concepts and exercises. One mandatory assignment and one project must be completed during the course. The experiences and progress on these practical components form the content of class practical exercises building to a final project.

Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		40.0		28.0
Formative feedback		5.0		
Project	1	3.0		9.0
Assignment	1			3.0
Test	3		6.0	11.0
Exam	1		2.0	13.0
		48.0	**8.0**	**64.0**

Syllabus

- Recognize what it means when IT is defined as "in the cloud."
- Decide when cloud computing first became a service delivery model
- Contrast the different categories of cloud computing services (e.g., SaaS, IaaS, PaaS, and Business Process-BPaaS).
- Discuss the reasons why cloud computing is an essential part of information technology.
- Categorize the different service types within cloud service delivery.
- Be aware of several privacy legislation examples as they relate to cloud computing
- Contrast private-sector and public-sector requirements.
- Analyse the organizational drivers for using cloud services including risk/benefit assessment
- Consider how contract negotiation relates to cloud computing
- Demonstrate why organizational accountability for data and system security still exists in a cloud service, delivery model
- Imagine several scenarios in which a breach of security may occur.
- Be aware of architecture principles of cloud computing service delivery
- Critique common change control guidelines and standards as they relate to cloud services
- Recognize the challenges of 'big data' analytics in the cloud
- Compare the infrastructure differences between public cloud computing, private cloud computing, and hybrid models
- Argue for how virtualization is a driving principle behind cloud computing

- Illustrate how rapid elasticity is a characteristic of cloud computing infrastructure