Module: Cloud-Native Architecture 361

Module name:	Cloud-Native Architecture 361
Code:	CNA361
NQF level:	6
Type:	Speciality – Diploma in Information Technology (Cloud)
Contact time:	170 hours
Structured time:	24 hours
Self-directed time:	156 hours
Notional hours:	350 hours
Credits:	35
Prerequisites:	CNA261

Purpose

Students should be able to design, develop, migrate and implement efficient applications and services for cloud platforms. The course will cover the implementation of cloud networking for enterprise organisations. It is an extra ordinary time to be in business as digital transformation continues to accelerate.

Outcomes

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

- Demonstrate an informed understanding of the basic concepts of cloud computing platforms.
- Demonstrate the ability to present and communicate complex information on Microsoft Azure platform.
- Demonstrate the ability to evaluate, select and apply appropriate methods, procedures, or techniques to design, develop and migrate applications for cloud service platforms.
- Demonstrate the ability to configure and manage Microsoft Azure active directory structure.
- Demonstrate the ability to create and manage virtual machines on a cloud platform.
- Demonstrate the ability to evaluate, select and apply appropriate methods, procedures, or techniques to manage data and messaging within a cloud platform.
- Demonstrate an understanding of the ethical implications of decisions and actions with regards to cloud computing.

Assessment

Assessment is performed using a variety of instruments:

- Continuous evaluation of theoretical work through a 2 assignment, 10 formative tests and a summative test.
- Continuous evaluation of project work, where the student must design, manage and report on the evaluation of testing methodologies and the selection of an appropriate methodology for a given scenario, justifying the choice made with well-formed arguments and evidence.
- Final assessment through an examination.
- The assignments or projects collectively will count 30% of your class mark.
- All tests will collectively account for 70% of your class mark.

- Your class mark contributes 30% towards your final mark for the subject, while the final assessment accounts for 70% of your final mark.

Teaching and Learning

Learning materials

Prescribed books (EBSCO)

📖 ***Webber-Cross, G., 2014. Learning Microsoft Azure. Packt Publishing Ltd.***

Additional material

📖 ***Bai, H., Stolts, D. and Muñoz, S.F., 2018. Exam Ref 70-535 Architecting Microsoft Azure Solutions. Microsoft Press.***

Learning activities

Learning will be facilitated by the lecturer with student centred activities that involve problem-based learning where pupils are presented with challenges that replicate the situation in the real-world environment. This will be achieved through a combination between presentation of theoretical concepts, guided exercises, group work and discussions during the module.

Notional learning hours

Activity	Units	Contact Time	Structured Time	Self-Directed Time
Lecture		154.0		57.0
Formative feedback		13.0		
Project	3	3.0		21.0
Assignment	2			4.0
Test	11		22.0	44.0
Exam	1		2.0	30.0
		170.0	**24.0**	**156.0**

Syllabus

- Introduction to cloud
- Introduction to Microsoft Azure
- The Microsoft Azure Portal
- Creating and managing resources
- Azure CLI and PowerShell
- Storage accounts
- Service level agreements
- Creating and managing virtual machines
- Azure networking
- Data in Azure
- Messaging in Azure

- Active Directory in Azure
- Files Services in Azure