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:	240 hours
Structured time:	40 hours
Self-directed time:	120 hours
Notional hours:	400 hours
Credits:	40
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 written assignments, formative tests, and a summative test.
- Continuous evaluation through tracking of progress, offering support, guidance and provision of constant stream of opportunities to prove mastery of subject material and pursuing more challenging work as they master the basics.
- Final assessment through an examination.

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

Contact	Distance	Other	Type of learning activities	% Learning
y	y	n	Lectures (face-to-face, limited interaction or technologically mediated)	40%
y	y	n	Tutorials: individual groups	20%
n	y	n	Syndicate groups	10%
n	y	n	Independent self-study of standard texts and references (study guides, books, journal articles)	10%
n	y	n	Independent self-study of specially prepared materials (case studies, multi-media, etc.	20%

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