



Course Outline (Higher Education)

School:	School of Engineering, Information Technology and Physical Sciences
Course Title:	NETWORK OPERATING SYSTEMS AND AWS CLOUD
Course ID:	ITECH7624
Credit Points:	15.00
Prerequisite(s):	Nil
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	020115

Description of the Course :

This course is intended for students who seek an overall understanding of IT network systems and cloud computing concepts in relation to cloud-based platforms such as Amazon Web Services (AWS). It provides a detailed overview of cloud concepts, core cloud services, service pricing models, and various cloud-based components related to IT security, architecture, and customer support. As a cybersecurity foundation course, it is designed for students to study and pass the test for the AWS certification on Cloud Practitioner.

Grade Scheme: Graded (HD, D, C, etc.)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: Yes

Where supplementary assessment is available a student must have failed overall in the course but gained a final mark of 45 per cent or above and submitted all major assessment tasks.

Program Level:

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Introductory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Level of course in Program	AQF Level of Program					
	5	6	7	8	9	10
Advanced	■	■	■	■	■	■

Learning Outcomes:

Knowledge:

- K1.** Describe and discuss system configuration, administration, security, and interoperability between Linux and MS Windows operating systems.
- K2.** Outline the benefits and operation of the virtualization of operating systems.
- K3.** Describe the security and compliance measures of the AWS Cloud, including AWS Identity and Access Management (IAM).
- K4.** Explore key concepts related to routinely monitoring server health, scaling of applications, and resource utilization in the cloud environment such as AWS.
- K5.** Explain the architectural principles of the AWS Cloud.

Skills:

- S1.** Administer Linux and Windows Operating systems in the context of security.
- S2.** Employ virtualization of software and associated operating system in a cloud environment such as AWS.
- S3.** Create a virtual private cloud (VPC) in a cloud environment such as AWS.
- S4.** Demonstrate the usage of AWS database services.
- S5.** Demonstrate the usage of various AWS cloud services including web services, serverless application deployment, and health monitoring.

Application of knowledge and skills:

- A1.** Establish secure computer networks of disparate systems.
- A2.** Test and repair network connectivity issues and remotely administer computer systems.
- A3.** Set up AWS cloud software environment for cyber security experiments.
- A4.** Utilize AWS core services for cyber security research.

Course Content:

- Administration and configuration of Windows and Linux operation system
- Cloud computing and AWS cloud concepts
- AWS Cloud Billing: AWS Organizations, AWS Billing & Cost Management, Billing Dashboard
Technical Support Models
- Amazon Storage: Amazon Elastic Block Store Console Demonstration, AWS S3, AWS S3 Console, AWS EFS, AWS EFS Console, AWS S3 Glacier and AWS S3 Glacier Console
- Amazon Database: Amazon RDS, Amazon RDS Console, Amazon DynamoDB, Amazon Redshift, and Amazon Aurora
- AWS Architecture: AWS Global Infrastructure, AWS Services and AWS Management Console
- Cloud Security: AWS Shared Responsibility Model AWS IAM, and AWS IAM Console Demonstration
- Content Delivery: Amazon VPC, VPC Networking
- Automatic Scaling and Monitoring: Elastic Load Balancing, Amazon CloudWatch, Amazon EC2 Auto Scaling

Graduate Attributes

The Federation University FedUni graduate attributes (GA) are entrenched in the Higher Education Graduate Attributes Policy (LT1228). FedUni graduates develop these graduate attributes through their engagement in explicit learning and teaching and assessment tasks that are embedded in all FedUni programs. Graduate attribute attainment typically follows an incremental development process mapped through program progression. **One or more graduate attributes must be evident in the specified learning outcomes and assessment for each FedUni course, and all attributes must be directly assessed in each program**

Graduate attribute and descriptor		Development and acquisition of GAs in the course			
		Learning Outcomes (KSA)	Code A. Direct B. Indirect N/A Not addressed	Assessment task (AT#)	Code A. Certain B. Likely C. Possible N/A Not likely
GA 1 Thinkers	Our graduates are curious, reflective and critical. Able to analyse the world in a way that generates valued insights, they are change makers seeking and creating new solutions.	K1,K4,K5, A2	A	AT1,AT2	A
GA 2 Innovators	Our graduates have ideas and are able to realise their dreams. They think and act creatively to achieve and inspire positive change.	A3, A4	B	AT1,AT2	B
GA 3 Citizens	Our graduates engage in socially and culturally appropriate ways to advance individual, community and global well-being. They are socially and environmentally aware, acting ethically, equitably and compassionately.	Not applicable	N/A	AT1,AT2	B
GA 4 Communicators	Our graduates create, exchange, impart and convey information, ideas, and concepts effectively. They are respectful, inclusive and empathetic towards their audience, and express thoughts, feelings and information in ways that help others to understand.	S4, S5	B	AT1,AT2	B
GA 5 Leaders	Our graduates display and promote positive behaviours, and aspire to make a difference. They act with integrity, are receptive to alternatives and foster sustainable and resilient practices.	S5, A3	B	AT1,AT2	C

Learning Task and Assessment:

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1 - K5, S1 - S5, A1- A4	The tasks will develop skills in system configuration and understanding of cloud concepts introduced.	Labs/Assignment(s)	30% - 50%
K1 - K5, S1 - S5, A1 - A4	Participate in lectures and labs/tutorials, read and summarise theoretical and practical aspects of the course.	Examination(s)/Test(s)	50% - 70%

Learning Outcomes Assessed	Learning Tasks	Assessment Type	Weighting
K1, K5, A4	Artifact demonstrating a community engagement activity. This report will describe the activity and relate it to the course's learning outcomes, CBOK and SFIA	Journal	Satisfactory/Unsatisfactory

Adopted Reference Style:

APA