Unit of Study: ICT5253 Cloud Architectures and Solutions

Overview

Students in this unit will expand their knowledge and understanding of cloud architectures and solutions. Students will explore cloud-based data storage including big data applications, virtualisation, and container concepts. Security challenges related to the cloud are examined together with different cloud designs and implementations, their advantages, and limitations.

Course(s)	Master of Information Technology
Credit Points	8 credit points
Duration	12 weeks (10 teaching weeks; 1 revision week; 1 final assessment week)
Level	Postgraduate Advanced
Student Workload	Students should expect to spend approximately 13 hours per week over 12 weeks (totalling approximately 156 hours) on learning activities for this unit.
Mode(s) of Delivery	On campus, Blended
Pre-Requisites	ICT5150 and ICT5151
Unit Coordinator	As per current timetable
Contact Information	Consultation: 1 hour scheduled session

Unit Learning Outcomes

On successful completion of this unit, students will be able to:

ULO1 Critique the fundamental principles and paradigms of cloud computing architectures.

ULO2 Appraise recent technology innovations that enable effective cloud computing.

ULO3 Evaluate the security issues and challenges in cloud computing.

ULO4 Critically review the technological and ethical issues of cloud solutions.

ULO5 Design and implement cloud solutions to enable specific business objectives.

Weekly Schedule

Detailed information for each week's activities can be found on Unit's Weekly Modules in Canvas.

Week	Topic
Week 1	Introduction to cloud computing
Week 2	Cloud service providers and the cloud ecosystem
Week 3	Network environment management and troubleshooting networks
Week 4	Cloud data storage and Cloud applications
Week 5	Cloud infrastructure, hardware, and software
Week 6	Cloud security & ethics
Week 7	Cloud resource virtualization and container techniques
Week 8	Cloud access and cloud interconnection networks
Week 9	Big data, data streaming, and the mobile cloud
Week 10	Designing, and planning a cloud solution architecture
Week 11	Revision
Week 12	Final Assessments

Assessments

APIC awards common result grades, set out in the Award of Grade Policy.

Detailed information for each assessment can be found on the Unit's Home Page in the Assessment Brief

Assessment Task	Type	Weighting	Due	Length	ULOs
Assessment 1: Laboratory Practicum (Invigilated) Weekly exercises assess students' ability to understand materials considered.	Individual  Invigilated 	40%	Weeks 3, 5, 6, 7, 8, 9, 10	Each 30 minutes (equiv. 3500 words)	ULO1 ULO2 ULO3 ULO4 ULO5
Assessment 2: Report Students will critically analyse the cloud architecture and features of a selected cloud provider.	Individual 	30%	Week 8	2000 words	ULO1 ULO2 ULO4
Assessment 3: Cloud Design and Deployment Create and configure a simple cloud services using AWS Educate according to specified business requirements.	Group 	30%	Week 12	(equiv. 4000 words)	ULO1 ULO2 ULO3 ULO4 ULO5

equiv. – equivalent word count based on the Assessment Load Equivalence Guide.

Course Reserve

Course Reserve includes all required resources and reading material for the unit of study. You can access Course Reserve via APIC Library or via the Course Reserve link on the unit's homepage.

Prescribed text(s):

West, J 2021, CompTIA Cloud+ Guide to Cloud Computing, 1st edition, Cengage, Boston.

Recommended reading:

Marinescu, D.C., 2017. Cloud computing: theory and practice. Morgan Kaufmann

Encyclopedia of Cloud Computing, edited by San Murugesan, and Irena Bojanova, John Wiley & Sons, Incorporated, 2016.

Academic integrity

Ethical conduct and academic integrity and honesty are fundamental to the mission of APIC and academic misconduct will not be tolerated by the College. It is the responsibility of every student to make sure that they understand what constitutes academic misconduct and to refrain from engaging in it. Please refer to APIC's Academic Integrity Policy for further details.

Other Important Information and Links

Special consideration If your academic work is impacted by significant documented illness, hardship, or other adverse circumstances beyond your control, you may make an application for Special Consideration. Please refer to the Assessment Policy for further details.	**Late submission** Penalties apply when work is submitted after the due date without approval. Please refer to the Assessment Policy for information about late submission.
Assessment appeals If you are concerned about a mark you have received for an assessment or final grade, you may apply to formally appeal the grade. Please see the Assessment Policy for further details.	**Award of grades** APIC awards common result grades, set out in the Award of Grade Policy.
Expectations of student conduct Students are expected to conduct themselves in a manner that is consistent with a safe and respectful study environment. More information can be found in the Student Code of Conduct.	**Study resources** APIC Library and Student Learning Support resources and services can be accessed via the Student Lounge or your Dashboard on the OLS (Canvas).
Student Services The Student Services team provides administrative support for students and handles enquiries about enrolment, timetables, important dates and submitting forms. More information can be found on the Student Services page on the OLS (Canvas).	**Key dates** Key dates through the academic year, including teaching periods, census, payment deadlines and exams can be found on the Academic Calendar section of the APIC website.

Changes and Updates to the Unit of Study Guide

This Unit of Study Guide may be updated and amended from time to time. Students will be notified of any changes to the unit via the Online Learning System (Canvas) space for the unit.

This Unit of study Guide was last modified on 13th of May 2024.