

## Unit of Study: BIS3005 Cloud Computing

Trimester 3, 2022

### Overview:

Cloud computing is a critical component of modern business operations. It has transformed the way networking, data storage and processing, application development and infrastructure provisioning is accomplished. This unit introduce cloud concepts, core cloud services, architecture, and cloud support. This unit also introduces various database options to examine the various services available to access databases on the cloud. It also provides an understanding of virtualisation concepts and exposure to different virtualisation solutions and security challenges related to the cloud. This unit also introduces cloud automation which refers to the use of software-based solutions and tools to perform a process or procedure like creating, cloning, or shutting down a VM instance or a server cluster with minimal human intervention. It also introduces resources and capacity monitoring and respond to problems to optimize both performance and cost efficiency.

<b>Course(s)</b>	Bachelor of Business Information Systems Bachelor of Information Technology
<b>Credit Points</b>	6 credit points
<b>Duration</b>	12 weeks (10 teaching weeks; 1 revision week; 1 final assessment week)
<b>Level</b>	Undergraduate Advanced
<b>Student Workload</b>	Students should expect to spend approximately 10 hours per week over 12 weeks (totalling approximately 120 hours) on learning activities for this unit.
<b>Mode(s) of Delivery</b>	On campus, Blended
<b>Pre-Requisites</b>	BIS2005 Enterprise Architecture
<b>Unit Coordinator</b>	As per current <a href="#">timetable</a>
<b>Contact Information</b>	Consultation: 1 hour scheduled session

### Unit Learning Outcomes

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

- ULO1 Investigate contemporary cloud architectures, management mechanisms and delivery modes.
- ULO2 Appraise recent technology innovations that enable effective cloud computing such as virtualisation.
- ULO3 Critically review current issues, challenges, and emerging trends in cloud computing.
- ULO4 Discuss the security issues and challenges in cloud computing that arise from the transformation of local computing to remote computing.
- ULO5 Formulate and communicate cloud computing 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	Virtual Hardware
Week 3	Migration to the Cloud
Week 4	Cloud Infrastructure
Week 5	Cloud Connectivity and Troubleshooting
Week 6	Securing Cloud Resources
Week 7	Identity and Access Management
Week 8	Cloud Storage
Week 9	Managing Cloud Capacity and Performance
Week 10	Cloud Automation
Week 11	REVISION
Week 12	FINAL ASSESSMENT

## Assessments







1. All assessments are compulsory.
2. To pass the unit students must:
  - achieve a total of 50% or more of marks offered; and
  - pass all individual invigilated assessments; and
  - have attempted all assessments.

Where one or more of these requirements are not met, the Board of Examiners will consider a student's overall progress towards meeting the unit learning outcomes and any special circumstances before reaching a decision.

3. The Board of Examiners may grant a supplementary assessment where a student:
  - achieves a total of 45% or more; and
  - has passed all individual invigilated assessments in the unit; and
  - has attempted all assessments; and
  - has a recommendation for supplementary assessment by the Unit Coordinator and the Head of Discipline.

Where one or more of these requirements are not met, the Board of Examiners will consider a student's overall progress towards meeting the unit learning outcomes and any special circumstances before reaching a decision. Attendance and engagement in class will be considered.

4. APIC awards common result grades as set out in the [Award of Grade Policy](#).
5. Detailed information for each assessment can be found on the Unit's Home Page and in the Assessment Brief.

Assessment Task	Type	Weighting	Length	Due	ULO's Assessed
<b>Assessment 1: Quiz</b> Quiz of key content areas to identify further support needs	Individual  Invigilated 	25%	20 mins each (equiv. 1600 words)	Week 2, 4, 6, 8, 10	ULO1 ULO2 ULO3 ULO4 ULO5
<b>Assessment 2: Lab Participation and Submission</b> Weekly lab activities and exercises assess students' ability to understand theoretical materials.	Individual  Invigilated 	15%	(equiv. 1000 words)	Week 3, 5, 7, 9	ULO1 ULO2 ULO3 ULO4 ULO5
<b>Assessment 3: Report</b> Research, Analyse, Compare and report	Individual 	30%	2000 words	Week 7	ULO1 ULO2 ULO3 ULO5
<b>Assessment 4: Cloud design and deployment</b> Test your ability of launching, resizing, managing, and monitoring an Amazon EC2 instance.	Group 	30%	2500 words	Week 12	ULO1 ULO2 ULO3 ULO4 ULO5

equiv. – equivalent word count based on the Assessment Load Equivalence Guide. It means this assessment is equivalent to the normally expected time requirement for a written submission containing the specified number of words.

### 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*, 1<sup>st</sup> edition, Cengage, Boston.

### Recommended Readings:

What is cloud computing – retrieved 14/3/2021 Microsoft Azure <https://azure.microsoft.com/en-au/overview/what-is-cloud-computing/>

Amazon GuardDuty <https://aws.amazon.com/guardduty>

Mohammed, KK, Abba, AA & Mohammad, A 2021, *Cloud Security*, DOI <http://dx.doi.org/10.13140/RG.2.2.13876.58242>, viewed 22 September 2021, <[https://www.researchgate.net/publication/349303347\\_Cloud\\_Security/link/60294643a6fdcc37a82774bf/download](https://www.researchgate.net/publication/349303347_Cloud_Security/link/60294643a6fdcc37a82774bf/download)>.

### Other Recommended Resources:

Prassanna J, Pawar AR & Neelananarayanan V, 2017, 'A Review of Existing Cloud Automation Tools', *Asian Journal of Pharmaceutical and Clinical Research*, vol. 10, no. 13, pp. 471-473.

### 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

<p><b>Special consideration</b></p> <p>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 <a href="#">Assessment Policy</a> for further details.</p>	<p><b>Late submission</b></p> <p>Penalties apply when work is submitted after the due date without approval. Please refer to the <a href="#">Assessment Policy</a> for information about late submission.</p>
<p><b>Assessment appeals</b></p> <p>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 <a href="#">Assessment Policy</a> for further details.</p>	<p><b>Award of grades</b></p> <p>APIC awards common result grades, set out in the <a href="#">Award of Grade Policy</a>.</p>
<p><b>Expectations of student conduct</b></p> <p>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 <a href="#">Student Code of Conduct</a>.</p>	<p><b>Study resources</b></p> <p>APIC Library and Student Learning Support resources and services can be accessed via the <a href="#">Student Lounge</a> or your <a href="#">Dashboard on the OLS (Canvas)</a>.</p>
<p><b>Student Services</b></p> <p>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 <a href="#">Student Services page on the OLS (Canvas)</a>.</p>	<p><b>Key dates</b></p> <p>Key dates through the academic year, including teaching periods, census, payment deadlines and exams can be found on the <a href="#">Academic Calendar</a> section of the APIC website.</p>

### 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 31<sup>st</sup> August 2022.