



Course Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Course Title:	CLOUD INFRASTRUCTURE AND SERVICES
Course ID:	ITECH2310
Credit Points:	15.00
Prerequisite(s):	(ITECH1104)
Co-requisite(s):	Nil
Exclusion(s):	(ITECH2201)
ASCED:	020199

Description of the Course:

The Cloud plays a critical role in contemporary IT infrastructure and services that impact government, industry and society. In this course, we will look at the enormous organisational benefits of this disruptive technology in terms of drivers, evolution and trends, network and cloud distributed systems. We will also consider the challenges of this dynamic field in terms of cyber risk, security, privacy and stakeholder and societal considerations. In this course, you will work individually and in project teams for hands-on experience in using and deploying Cloud services and related technologies such as green computing and data storage are also covered in this course.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

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"/>	<input type="checkbox"/>
Intermediate	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advanced	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Learning Outcomes:**Knowledge:**

- K1.** Investigate hardware and software solutions for virtual servers, virtual desktops and virtual networks.
- K2.** Determine the factors driving the need for cloud computing.
- K3.** Interpret critical elements of cloud computing such as storage, processing and communication.
- K4.** Discuss managerial considerations and complexities to be evaluated between existing systems and migration to the cloud.
- K5.** Determine various services offered by cloud vendors and outline the associated benefits and constraints of each.
- K6.** Discuss the role of IT governance for cloud based computing.

Skills:

- S1.** Coordinate operational processes in relation to service management, monitoring, administration, support and control of cloud computing environments.
- S2.** Illustrate cloud architecture models.
- S3.** Manage cloud software application development platform by investigating real-world web services.

Application of knowledge and skills:

- A1.** Work collaboratively in teams to recommend a migration management plan for a cloud-based solution.
- A2.** Apply knowledge of the cloud application development platform for a range of e-business systems such as e-health, e-banking, e-learning and e-government.
- A3.** Adopt problem solving and decision making strategies to communicate solutions with key stakeholders for a variety of issues relating to cloud computing.
- A4.** Research current issues and challenges in relation to cloud computing.

Course Content:

Topics may include:

- Cloud architecture model.
- Infrastructure as a service (IaaS).
- Platform as a service (PaaS).
- Software as a service (SaaS).
- Data storage.
- Virtualisation.
- Security and privacy in the cloud.
- Cloud governance.
- Mobile cloud computing.
- Green computing.
- Cloud migration.
- Cloud application workflow development.

FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**tttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are embedded within curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-

operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni course, and all must be directly assessed in each program.*

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 1 Interpersonal	Students will demonstrate the ability to effectively communicate, interact and work with others both individually and in groups. Students will be required to display skills in-person and/or online in: <ul style="list-style-type: none"> • Using effective verbal and non-verbal communication • Listening for meaning and influencing via active listening • Showing empathy for others • Negotiating and demonstrating conflict resolution skills • Working respectfully in cross-cultural and diverse teams. 	A1	AT1
FEDTASK 2 Leadership	Students will demonstrate the ability to apply professional skills and behaviours in leading others. Students will be required to display skills in: <ul style="list-style-type: none"> • Creating a collegial environment • Showing self-awareness and the ability to self-reflect • Inspiring and convincing others • Making informed decisions • Displaying initiative 	Not applicable	Not applicable
FEDTASK 3 Critical Thinking and Creativity	Students will demonstrate an ability to work in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: <ul style="list-style-type: none"> • Reflecting critically • Evaluating ideas, concepts and information • Considering alternative perspectives to refine ideas • Challenging conventional thinking to clarify concepts • Forming creative solutions in problem solving 	A3	AT1, AT2
FEDTASK 4 Digital Literacy	Students will demonstrate the ability to work fluently across a range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: <ul style="list-style-type: none"> • Finding, evaluating, managing, curating, organising and sharing digital information • Collating, managing, accessing and using digital data securely • Receiving and responding to messages in a range of digital media • Contributing actively to digital teams and working groups • Participating in and benefiting from digital learning opportunities 	S3	AT1

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the course	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 5 Sustainable and Ethical Mindset	Students will demonstrate the ability to consider and assess the consequences and impact of ideas and actions in enacting ethical and sustainable decisions. Students will be required to display skills in: <ul style="list-style-type: none"> • Making informed judgments that consider the impact of devising solutions in global economic environmental and societal contexts • Committing to social responsibility as a professional and a citizen • Evaluating ethical, socially responsible and/or sustainable challenges and generating and articulating responses • Embracing lifelong, life-wide and life-deep learning to be open to diverse others • Implementing required actions to foster sustainability in their professional and personal life. 	A4	AT2

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
K1, K2, S2, S3, A1, A2, A3, A4	Participate in lectures and labs/tutorials. Develop skills in the analysis and practical application of content introduced.	Tutorials/Assignment(s)	30% - 60%
K1, K2, K3, K4, K5, K6, S1, A2, A3, A4	Present a solution for an IT infrastructure problem based on theoretical and practical aspects of the course.	Presentation	20% - 30%
K2, K3, K4, K5, K6, S1, S2	Students will provide theoretical answers and work out solutions to a range of cloud computing questions.	Examination	20% - 40%

Adopted Reference Style:

APA

 Refer to the [library website](#) for more information

 Fed Cite - [referencing tool](#)