COMP 3012 INTRODUCTION TO CLOUD COMPUTING

Credit Points 10

Legacy Code 301203

Coordinator Bahman Javadi Jahantigh (https://directory.westernsydney.edu.au/search/name/Bahman Javadi Jahantigh/)

Description This subject provides deep understanding of fundamental cloud computing concepts and how they can be applied to build cost-effective, highly available and fault tolerant systems. Students will learn concepts including system virtualisation, virtual machines, cloud networks, basic cloud storage and cloud databases, security in clouds, and auto-scaling, load balancing and monitoring. The main content of this subject is formed around the industry-based curriculum from Amazon Web Services (AWS) Academy which can prepare students for the AWS Certified Cloud Practitioner exam. Based on the performance in the subject, a selected number of students will have the opportunity to undergo a week-long placement with a target industry partner. Students doing the placement will work on industry projects assessed by professional staff at their placement venue.

School Computer, Data & Math Sciences

Discipline Computer Science, Not Elsewhere Classified.

Student Contribution Band HECS Band 2 10cp

Check your fees via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 3 subject

Pre-requisite(s) COMP 2004 OR
COMP 2005

Learning Outcomes

On successful completion of this subject, students should be able to:

1. Explain the concept of system virtualisation
2. Explain and apply basic cloud services
3. Describe the main factors that affect the cost of cloud services and how they can be applied to minimise total cost of ownership
4. Explain and apply basic concepts of security, high availability, and fault tolerance in clouds
5. Analyse systems that utilise basic cloud services

Subject Content

1. System virtualization
2. Fundamentals of cloud computing and cloud networking
3. Basic cloud services: virtual machines, cloud storage, availability zones, auto-scaling, load balancing, and monitoring
4. Cost optimization in cloud services
5. Introduction to cloud security
6. Introduction to cloud databases
7. High availability and fault-tolerance in clouds

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Type	Length	Percent	Threshold	Individual/ Group Task	Mandatory
Practical	15 minutes (per practical)	50	N	Individual	N
Quiz	10 minutes (per Quiz)	S/U	Y	Individual	Y
Final Exam	2 hours	50	N	Individual	N

Teaching Periods

Surabaya Semester 2 (2025)

Surabaya

On-site

Subject Contact Bahman Javadi Jahantigh (https://directory.westernsydney.edu.au/search/name/Bahman Javadi Jahantigh/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3012_25-IS2_SU_1#subjects)

Autumn (2025)

Parramatta - Victoria Rd

On-site

Subject Contact Bahman Javadi Jahantigh (https://directory.westernsydney.edu.au/search/name/Bahman Javadi Jahantigh/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3012_25-AUT_PS_1#subjects)

Sydney City Campus - Term 2 (2025)

Sydney City

On-site

Subject Contact Antoinette Cevenini (https://directory.westernsydney.edu.au/search/name/Antoinette Cevenini/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3012_25-SC2_SC_1#subjects)

Sydney City Campus - Term 3 (2025)

Sydney City

On-site

Subject Contact Antoinette Cevenini (https://directory.westernsydney.edu.au/search/name/Antoinette Cevenini/)

View timetable (https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=COMP3012_25-SC3_SC_1#subjects)