



TEQSA ID PRV:14323
CRICOS Provider Code: 03866C

MIT612 SOFTWARE DEFINED NETWORKS

SYDNEY INSTITUTE OF HIGHER EDUCATION > PROGRAMS > MIT612 SOFTWARE DEFINED NETWORKS

Unit Outline

Important Update:	Our aim is to provide you with an optimal learning experience, regardless of how this unit is delivered. Teaching will be delivered in line with the most current COVID Safe health guidelines. This may include a mix of online and face-to-face. Please check the learning management system for announcements and updates. Thank you for your flexibility and commitment to studying with Sydney Institute of Higher Education.
Enrolment Modes:	Year 2, Semester 2.
Credit Point(s):	12.5
EFTSL Value:	0.125
Prerequisites:	MIT501 Programming , MIT601 Networked Systems Design
Typical study commitment:	Students will on average spend 10 hours per week over the teaching period undertaking the teaching, learning and assessment activities for this unit.
Scheduled learning activities:	4 timetabled hours per week, 6 personal study hours per week.
Other resource requirements:	Students will need access to lab computers or will need their own laptops in order to carry out lab exercises and assignments. Students will need to use Java, Eclipse IDE and Mininet.

Unit description

Software Design Networks (SDN) addresses today's requirements of automating network configuration and management on a big scale. It allows enterprises to gain increased level of programmability, automation, network control and flexibility, enabling them to build scalable and adaptable networks while reducing implementation and operational costs. This unit introduces the basic principles of SDN, its architecture, programming, virtualisation, and Network Function Virtualization (NFV), as well as the applications and implementations of SDN.

Unit learning outcomes (ULO)

On the successful completion of this unit student will be able to:

ULO1	Compare and contrast conventional networking approaches and SDN solutions.
ULO2	Evaluate SDN solutions in data centres and other environments.
ULO3	Use tools to model and design SDN solutions.
ULO4	Create an SDN application using programming language.
ULO5	Test and debug SDN applications.

Topics to be included in the unit

1.	Introduction to Software Defined Networks (SDN)
2.	Genesis of SDN
3.	How SDN Works
4.	The OpenFlow Specification
5.	Alternative Definitions of SDN
6.	Emerging Protocol, Controller and Application Models
7.	SDN in the Data Centre
8.	SDN in Other Environments
9.	Network Functions Virtualization (NFV)
10.	SDN Applications
11.	SDN Open Source
12.	SDN Future & Revision

Assessment

Assessment Description	Grading and weighting (% total mark for unit)	Due date
Assessment 1: Class Participation	10%	Weeks 1-12
Assessment 2: Online Quiz 1	10%	Week 5
Assessment 3: Online Quiz 2	10%	Week 9
Assessment 4: Technical Report and Presentation (Group)	30%	Week 10
Assessment 5: SDN Application Development	40%	Week 12