WESTERN SYDNEY
UNIVERSITY

The College

COMPUTER NETWORKING

700012

2020

UNIT OUTLINE

Last amended:	October 2020

Western Sydney University The College

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Disclaimer

Unit name	Computer Networking
Unit number	700012
Coordinator	Dr Buddhima De Silva
Session	2020.3
Handbook summary	This is an introductory unit in computer systems networking. It covers basic networking technologies, Ethernet fundamentals, ISO OSI model, routing, switching and sub-netting, the internet architecture, networking protocols, including TCP/IP, important OSI layer 2 and 3 networking device fundamentals, basic network management and security issues. This unit is also the first of three units which will prepare students for industry based networking certification (CCNA).
Credit point value	10
Prerequisite/s	Students enrolled in 7067 Diploma in Information and Communications Technology Extended and 7134 Diploma in Information and Communications Technology Extended – ICT must pass 700199 Academic Communication 2 (WSTC Prep) or 700208 English for Tertiary Study 2 (WSTC Prep) or 700210 Introduction to Academic Communication 2 (WSTC Prep), and must pass 700201 Computer Studies (WSTC Prep) before enrolling in this unit. Students enrolled in 7138 Diploma in Information and Communications Technology Extended-ICT, 7139 Diploma in Information and Communications Technology Extended, 7140 Diploma in Information and Communications Technology Extended–IS and 7141 Diploma in Information and Communications Technology Extended-HIM must pass 700276 Academic & Professional Communication (WSTC Prep) and must pass 700205 Academic Skills for ICT (WSTC Prep) before enrolling in this unit.
Corequisite/s	N/A
Assumed knowledge	Fundamentals of computer architecture, binary and hexadecimal numbering systems and programming principles. Students should also have a working knowledge of the World Wide Web.
Unit level	2
Attendance requirements	Students are expected to attend at least 80% of classes. Educational research consistently demonstrates that this attendance level is associated with a high likelihood of achieving a passing grade.
Enrolment restrictions	Students must be enrolled at Western Sydney University, The College. Students enrolled in Extended Diploma courses must have passed 40 credit points of preparatory units in order to enrol in this unit. Students enrolled in the combined Diploma/Bachelor courses listed below must pass all College Preparatory units listed in the course structure before progressing to the Year 2 units.
Learning outcomes	On successful completion of this unit, students should be able to: 1. identify the basic concepts and protocols of computer networking and internetworking 2. describe and define the internet architecture

3. explain the significance of the OSI and TCP/IP models, protocol stacks and their operation in computer networks

4. identify and describe modern technologies in computer networking

5. examine and review the functions of important OSI layer 2 and OSI layer 3 networking devices

6. apply and utilise the basic management and security requirements of computer networks

7. design, construct and test a simple LAN, and

8. subnet a network given design criteria.

Unit content	1. Overview to Introduction to networks; exploring the network and Configuring a network operating system 2. Network protocols and communication and Network access 3. IP addressing 4. Subnetting IP networks 5. Ethernet 6. Network layer 7. Transport layer 8. Application Layer 9. Build a small network
Mode of delivery	This unit consists of two hours of online lectures and two hours of online practical sessions per week. In addition to that, there will be activities on the unit's vUWS website.
Online learning requirements	In addition to attending online classes the students are expected to access vUWS and check their student email account at least twice a week. Access to the unit's vUWS site is only available to students who are enrolled in the unit. Student enrolment can be cancelled for failure to meet financial obligations to the university, eg failure to pay library fines. If access is unavailable, students should contact Student Services to check enrolment.
Essential requirements	**Essential text** • Online CISCO Local Academic CCNA curriculum. **Further resources** For a list of additional readings, please see the unit's learning guide.

ASSESSMENT ITEMS AND WEIGHTING

Assessment for this unit will be based on the following components:

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Task	Weighting	Learning outcomes assessed	Mandatory task
1. Participation — two hours per week (individual assessment)	10%	1-8	Yes
2. Quiz — one hour (open book, individual)	15%	1– 4, 8	Yes
3. Practical exam — 90 minutes (individual assessment)	20%	3, 7	Yes
4. CISCO online Quiz — one hour (open book, individual)	5%	1-6, 8	Yes
5. End of session exam (2.5 hours, open book, individual) a. Quiz b. Report	50%	1–6,8	Yes
Total	100%		

For details of assessment due dates, please refer to the Learning Guide for this unit.

All marks will be determined in accordance with The College Assessment Policy.

All assessment tasks are mandatory unless otherwise specified. Should a student fail to attempt/submit the first formal assessment task in a unit, they will be deemed to be at risk and will need to follow an intervention plan in order not to receive a Fail Non-Submission (FNS) grade. However, failure to attempt/submit all other mandatory assessment tasks will result in an immediate FNS grade for the unit.

To pass this unit, students are required to:

- submit/attempt all mandatory assessment tasks
- achieve a mark of at least 50% overall.